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THE DENTAL DIGEST

VOLUME XXXVII MARCH, 1931 NUMBER 3

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THE DENTAL DIGEST

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THE DENTAL DIGEST

VOLUME XXXVII MARCH, 1931 NUMBER 3

Ulcerative Stomatitis, Its Diagnosis and Treatment*

(VINCENT'S INFECTION)

By JAMES L. ZEMSKY, D.D.S., New York, N. Y.

Oral Surgeon, Midtown Hospital; Lecturer on Oral Surgery, Postgraduate Courses, Allied Dental Council, New York; Author of the Books *Oral Diseases* and *Outline of Oral Surgery.*

In this brief talk on ulcerative stomatitis, more correctly termed *Vincent's infection of the mouth,* I intend to describe a therapeutic procedure which has proved very successful in treating clinic patients afflicted with this lesion. A method of treating Vincent's infection which has proved satisfactory in handling clinic patients is an attestation of its efficacy, and for the following reason:

Clinic patients suffering from Vincent's infection of the mouth present an "acid test" of the procedure employed, and therefore a method which has "stood the test" and proved of great value must necessarily possess sufficient merit to warrant its serious consideration.

The reason why clinic patients suffering from Vincent's infection present a much more difficult problem than private patients is readily appreciated by those who have had an opportunity to work in hospitals. It has been my experience that clinic patients suffering from Vincent's disease do not follow the instructions that are given them. This, in my opinion, is due not only to the circumstances which at times do not permit the patient to carry them out, but to what I consider a *lack of spirit of cooperation.* It has been my observation that patients who are given treatment absolutely gratis or who pay only a few pennies for it do not value the service rendered. They do not take the "clinic" doctors seriously, their belief being that such doctors have not the patient's interest at heart, and consequently that there is no use in following their advice. This is in contrast to their religious execution of all instructions when under the care of private doctors, particularly if these are paid "good and plenty." The lack of cooperation on the part of the patient suffering from Vincent's infection of the mouth spells *failure* in the management of such cases. This is due to the nature of the disease, which I am going to consider now.

Vincent's infection of the mouth, as the name implies, is an infectious disease, affecting the oral mucosa and periodontal tissues, caused by an invasion of these structures by Vincent's

* From a clinic presented at the Joint Session of the First and Second District Dental Societies of the State of New York at the Sixth Better Dentistry Meeting held on December 4, 1930, at Hotel Pennsylvania, New York.

micro-organisms. These are of the spirochete or spirilla and fusiform type and are of the anaerobic variety. This is a very important point to be borne in mind in connection with the therapeutics of the lesion, because the treatment of an infectious disease of the mouth caused by an *anaerobic* type of bacteria must necessarily differ from that brought about by germs of the aerobic variety. This is due to the fact that the *aerobic* micro-organisms grow most abundantly in the presence of free oxygen, while the *anaerobic* bacteria are rapidly destroyed when exposed to the same condition. *This fact must be laid down as a principle in the treatment of Vincent's infection.*

Another point which ought to be emphasized is that in the oral cavity there are many hidden places which present an ideal environment for the growth of Vincent's micro-organisms. There we have deep gingival crevices, resulting from the swelling of the gingival tissues, and extensive pockets around the partly erupted and malposed teeth. In addition to these there are pyorrhetic pockets, cavities in the teeth and overhanging margins, due to faulty operative and prosthetic restorations, all of which afford excellent breeding-places for Vincent's organisms, since the growth of these germs is materially enhanced by the fact that free circulation of air is restricted in such areas. With this in mind, it is easy to appreciate why a method of treatment based upon an abundant supply of oxygen in these hidden places should prove an effective means of combating this disease. This will not only destroy the Vincent's micro-organisms but also arrest their growth.

Having familiarized you with the nature of Vincent's infection, I can now proceed with the consideration of diagnosis and treatment of this disease.

Diagnosis

The diagnosis of Vincent's infection of the mouth is rather a simple task, because there are several factors aiding in the examination, such as clinical appearance, subjective symptoms and microscopic findings.

The clinical picture of Vincent's infection may vary considerably, depending upon the type of infection, i.e., whether it is acute, subacute or chronic.

Chronic Vincent's Infection. A case of chronic Vincent's infection presents more or less a characteristic picture. The gingivae are painfully inflamed and slightly swollen, showing destruction of the interdental papillae. There is considerable bleeding of the gums, and the patient complains of a general discomfort of the mouth. A smear taken from any part of such a mouth will reveal the presence of Vincent's micro-organisms in large numbers.

Subacute Vincent's Infection. The subacute type of Vincent's infection, however, is not quite so characteristic. The main features of this condition are bleeding of the gingivae and *slight* ulceration. These are usually found in the region of the mandibular third molar, but may occur anywhere about the other teeth (Fig. 1). They are covered with a grayish pseudomembrane, which it is difficult to remove, and when an attempt is made to do so, considerable bleeding occurs. The odor present is typical and, once detected, cannot be confused with that associated

Fig. 1

Photograph of a patient, 31 years of age, presenting a case of subacute Vincent's infection. This shows slight ulceration at the gingival margin around the central and lateral incisors. The clinical picture, together with the positive microscopical findings of a smear taken from the lesion, led to a definite diagnosis of the disease.

with any other mouth lesion. Of the objective symptoms pain is the most important. Finally, there are present a large number of Vincent's spirilla and fusiform bacilli, which make the diagnosis of Vincent's infection certain.

ACUTE VINCENT'S INFECTION

Acute Vincent's Infection of the mouth is a condition much more distressing to the patient than the other forms of this disease. It is not infrequently accompanied by marked constitutional symptoms, among which may be observed elevation of temperature (ranging between 99° and 102° F.), increased pulse rate, nausea, malaise, loss of sleep, mental depression, restlessness and even presence of albumen in the urine. Pain in the back, headache, difficulty in deglutition, enlargement and tenderness of the cervical lymphatic glands, together with increased salivation, severe pain in the gums and jaws, and soreness in the teeth when masticating, are among the other symptoms which must be mentioned. In addition to these, many ulcerated areas are also observed which often coalesce and present profuse hemorrhage. (Fig. 2.)

Besides the above-described varieties of Vincent's infection, there are various forms of stomatitis and gingivitis in which the presence of Vincent's organisms is observed (Figs. 4-5). It is claimed that in 80% of mouths which show no definite lesion Vincent's organisms are demonstrable. Because these organisms may increase not only in

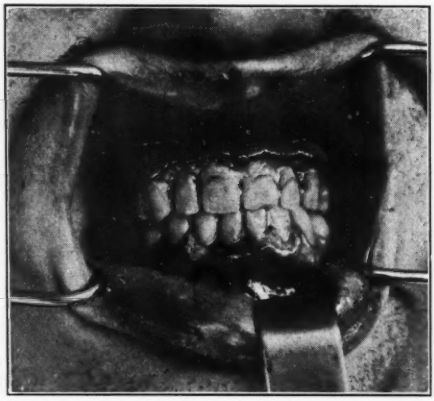

Fig. 2

Photograph of a patient, 28 years of age, who presented with fever and severe pain in the gingivae. There was marked sloughing of tissue and profuse bleeding upon the slightest provocation. A smear was taken from the sloughing tissues and around the necks of the teeth. The presence of Vincent's spirilla and fusiform bacilli was found, which led to a diagnosis of Vincent's infection. (See Fig. 3.)

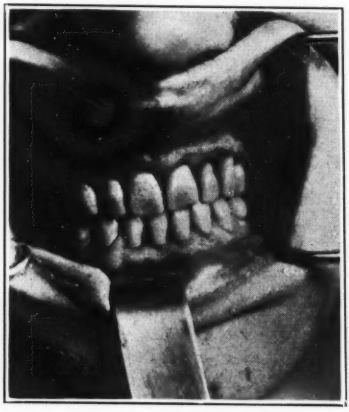

Fig. 3

Photograph of the same mouth as shown in Fig. 2. This was taken four weeks later and demonstrates the result of the treatment consisting of the application of Churchill's iodin followed by silver nitrate, careful removal of sloughed tissue, prophylaxis, and use of sodium perborate. No scaling was done until the signs of infection completely disappeared. (See Fig. 2, and compare with Fig. 6.)

number but also in virulence and thus seriously aggravate the existing conditions, every patient presenting spirochete and fusiform bacilli should be treated as if he were suffering from Vincent's infection. The intensity of the treatment should vary, of course, with the severity of the case.

Treatment of Vincent's Infection

As has already been pointed out, the nature of Vincent's infection requires a therapeutic procedure which will supply free oxygen to the breeding-places of the micro-organisms. This is accompanied by the use of oxidizing agents, of which chromic acid, hydrogen peroxid, potassium permanganate and sodium perborate are the most frequently employed.

In my own experience sodium perborate gives the best results, and for

Fig. 4

Photograph of a patient, 41 years old, presenting a lead stomatitis characterized by somewhat swollen and spongy gingivae, particularly in the region of the mandibular anterior teeth. A blue line is clearly seen at the free gingival margin (appearing white on the photograph). The patient had been running a fever and had been very ill for two weeks previously. The blood examination revealed the presence in red cells of basophile granules in large numbers, denoting irritation of the bone marrow.

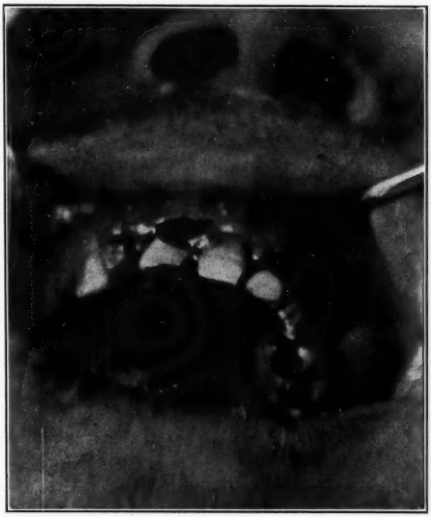

Fig. 5

Photograph showing Vincent's infection in a case of an acute osteomyelitis. Notice the profuse hemorrhage and extensive ulceration. The formation of several abscesses is clearly shown on the labial and buccal aspects of the gum.

the following reasons. The oxygen produced by the use of sodium perborate is neither strong enough nor rapid enough in action to either destroy or injure the tissue, therefore it can be used continually (for the period necessary), thus bringing the nascent oxygen at the moment of its liberation in direct contact with all parts of the area of infection. The tissue impregnated in this way with oxygen does not permit the growth of the bacteria.

The main difficulty which one encounters in using this method is in securing the patient's cooperation. This is *absolutely indispensable*, for unless the tissues are continually subjected to the action of the oxygen, the growth of these bacteria cannot be arrested. Continuous use of sodium perborate in the form of a mouthwash will supply the necessary oxygen. This, however, is where the trouble comes in. In order to derive any benefit, the patient must rinse the mouth every hour for a few minutes, a thing that clinic patients will seldom do. And yet, unless this cooperation is secured, all the effort to treat such cases by the method herein presented will terminate in failure. I have succeeded, however, in overcoming this great difficulty in securing the patient's cooperation, which has resulted in obtaining a cure in every case of Vincent's infection. The following is an account of the procedure.

The Clinic Method of Treating Vincent's Infection

When a diagnosis of Vincent's infection has been established or the presence of Vincent's micro-organisms in the mouth has been merely demonstrated, the following steps are carried out:

The teeth, tongue and entire oral mucous membrane are carefully wiped off with cotton applicators and cotton rolls, and thus all the sloughed tissue and debris are removed from the gums and coronal portions of the teeth. The interproximal spaces are then syringed out with hydrogen peroxid. By means of cotton rolls the ulcerating surfaces are isolated and then painted with Churchill's compound of tincture of iodin followed by the application of a 20% solution of silver nitrate. A yellow precipitate of silver iodid is formed on the tissues, thus eliminating the irritating action of each drug. If there are any cavities in the teeth, they should be filled temporarily at the same time. The subgingival space is not to be touched nor any extraction attempted at this time, all surgical work, including scaling, being postponed until the signs in the mouth have disappeared.

After the treatment outlined above has been completed, the patient is discharged with instructions to use every hour a solution of sodium perborate made by dissolving one teaspoonful of sodium-perborate powder in one-half glass of hot water. The mouth must be washed freely every hour for several minutes at a time. This is essential, for otherwise no benefit can be derived from this treatment, which must continue for days and days, long after all the symptoms have disappeared from the mouth and the smears taken from the pockets and mucous membrane have proved negative.

At this time scaling of the teeth and curetting of the pockets may be undertaken. All this should be done very

cautiously, for it must be remembered that any damage to the structures will lower the vitality of the tissue, which in some instances results in sloughing and a deformity. (See Fig. 6, and compare with Fig. 3.)

DIFFICULTY IN SECURING COOPERATION OVERCOME

The treatment as above outlined demands continuous use of a sodium-perborate mouthwash, for which purpose the patient must retire hourly, for a few minutes, to the bathroom. Then comes the question of preparing the solution—all of which is not only a nuisance but actually a physical impossibility, because the average individual, regardless of whether he owns a business or is an employee, cannot do this conveniently. The result is that the patient *does not carry out* the "home" treatment, and as a consequence either the progress of the case is very slow or there is no progress at all.

Attempting to overcome this serious difficulty, I used to advise patients to carry along with them a bottle of sodium perborate. Every hour they would put a little powder in the mouth, and after it had been dissolved by the saliva, they would work it between the teeth just as if it were a mouthwash. After a few minutes this was expectorated into a handkerchief. This

Fig. 6

Photograph showing the appearance of the gums of a patient who has recovered from Vincent's infection of the mouth. Notice the deformity due to loss of tissue caused by a too extensive curetting during the acute stage of infection. (Compare with Fig. 3.)

"ingenious scheme" of mine proved a considerable help, and some of the patients who were willing to put up with it showed fairly good results. However, the problem was not solved until Theodore Schlauch, the pathologist of the Midtown Hospital, succeeded in preparing a sodium-perborate *tablet*. This at once removed our great difficulty in securing the cooperation of those patients who were willing to do so. The sodium-perborate tablet proved a much more convenient form than the powder carried around in a bottle. Not only do the sodium-perborate tablets make it possible for the patient to cooperate fully during the treatment, but they have another very important use, namely, the prevention of recurrence.

Prevention of Recurrence. Patients with periodontal disease where many pockets are present or those with partly erupted teeth, as well as those presenting ill-fitting crowns, inlays and overhanging fillings, may harbor Vincent's micro-organisms, even if their presence is not disclosed by a smear. In the majority of cases these patients will show recurrence unless the growth of the Vincent's organisms is kept under control. This is a very simple task with the sodium-perborate tablets. Without any effort, discomfort or sacrifice the patient may for weeks keep the growth of the bacteria in check by merely placing a tablet in the mouth, letting it dissolve, then expectorating into a handkerchief, and continue this treatment as long as necessary.

355 East 149th Street

Art and Artificial Dentures

By FRANK C. FURNISS, D.D.S., Columbus, Ohio

The theory of modern full denture construction as expounded by leading exponents of this art is so complex that perhaps fewer dentists are doing this work themselves in their own offices than ever before.

So much has been written in support of anatomical occlusion with its attendant technic of face-bow transfers, condyle-path registrations and lateral and protrusive bites, etc., that most dentists feel that the technic is beyond their capabilities and consequently they either delegate this service to the commercial laboratories or refrain from doing this work at all.

THE NEED FOR FULL DENTURES

There will always be full dentures to make. As long as pathologists check up on our work, human teeth will be condemned and extracted. Then either artificial substitutes will have to be inserted or our patients must remain edentulous. Just how far these substitutes meet with functional and artistic requirements is a matter of deep concern to our patients if not to us as dentists.

Today people are particular. They demand not only efficiency but good looks. Art is an equal partner of mechanics. This is no less true of architectural design than it is of dental restorations. Perhaps most artificial dentures as constructed today function fairly well. At least they can be tolerated. But what of art and esthetics? Observe for yourself people who have artificial dentures, and draw your own conclusions. Surely you must admit that it is rare to see a truly esthetic restoration. And what is the reason for this? Evidently we have subjugated art to mechanics.

As dentists we ought to be familiar with every dental type. We should be close observers of the natural teeth and their arrangement. If we would train ourselves to make a study of the harmonious relationships existing between the natural teeth and facial expression and contour, surely this influence would be evident when we were called upon to supply our patients with substitutes for the lost natural teeth.

HOW TO ACHIEVE EXCELLENCE IN ESTHETICS

The processes by which esthetic excellence may be achieved do not differ in principle, in denture construction, from that which is accomplished in other lines of endeavor. A visit to the art section of any first-class department store will reveal innumerable examples of objects of beauty of line, form and color. The discriminating visitor can detect the exquisite objects from mediocre imitations. Things of value and beauty are rarely produced by accident. Rather they are the result of studied effort and long practice.

In denture restorations we should first look to the natural arrangement, just as a landscape artist observes the beauty of the fields, hills, woods and streams.

If dentists would secure impressions of the natural teeth and make models of a number of typal natural dentures and use them as models for study, copying the arrangement in setting up artificial teeth, an improvement in esthetics would naturally follow. It has always seemed strange that dentists in their daily observation of the teeth of their patients produce such inferior imitations of them.

The manufacturers of artificial teeth have reached a degree of perfection that leaves little room for improvement. If dentists approached the same degree of excellence in the handling of these teeth in denture work, the standard of esthetic achievement in this service would also improve. Denture work is individual. It rightfully begins before the patient has lost the natural teeth. Every adult patient should be advised to have study models of his teeth made, even in anticipation of the possibilities of their ultimate loss, and these models should be recorded and preserved in case of future need. In addition to this, photographs, front and profile, should be secured and preserved, together with a card record noting the color and characteristic markings of the natural teeth. This would be a valuable aid in the event that the patient should unfortunately become edentulous.

Study the Natural Teeth

The intensive study of the arrangement and type of the natural teeth cannot be too strongly recommended. No part of the human anatomy is more wonderful in its beauty of form, color and mechanical efficiency than the normal natural adult dentition. And by some mysterious provision the loss of these human teeth can be restored. No other living creature possesses tissues upon which full artificial dentures can be retained. Human progress has made it possible for us to secure and assemble artificial teeth that function in a manner that approximates the functional efficiency of the natural organs.

With all of the possibilities in restorations of this kind, surely this work is worthy of our greatest efforts to produce dentures that function not only in mastication, phonetics and enunciation, but also in an artistic excellence that truly conceals art.

Medical Arts Building

Improved Method of Administering Nitrous Oxid and Oxygen Anesthesia*

By WILLIAM J. McLAUGHLIN, D.D.S., Bridgeport, Conn.

It is a great pleasure to discuss a subject in which I have been interested since my student days at college. My memory goes back to 1901. While a student, I was told to administer gas for the extraction of a tooth. I did so and was surprised to find both operations successful.

When I entered general practice, my first position was in New York, where I had the advantage of being associated with a general practitioner who had a reputation for gas work, so I was turned loose on the unsuspecting public, and when I started in practice for myself, I felt that nitrous oxid would be the desirable medium for my office.

My Early Days with Nitrous Oxid

I recall the discouragement of the early days and some of the pitfalls I fell into, which discouraged most of the men and perhaps made it an exclusive field. I feel that when one is equipped to administer nitrous oxid, one has a tool to work with which, in many cases, is far superior to novocain. Most of the young men out of school are novocain experts, so from the economic side a man who would equip himself for nitrous oxid has a big jump on his brother practitioner who works exclusively with novocain.

The equipment in those days was a large displacement tank containing nitrous oxid, with a tube outlet and a face mask on the end of the tube. This was the pioneer method in quick induction of anesthesia and, as some one has facetiously said, the "hit-and-run method." In looking back it must have been the "hit-and-miss method," because we did all we could while the patient was coming out of the anesthesia, never daring to take our eyes off him. We had to reach for an instrument, dropping the face mask and tube in a convenient place, in the lap of the patient or on the floor. It may seem strange to state that I do not recall in those days having a case of nausea or any symptom that would be viewed with alarm. However, it was a very trying experience, and one worked under much tension.

The Advent of Oxygen and Nitrous Oxid Anesthesia

The advent of the combination of oxygen and nitrous oxid gave us a method in which much of the rapid work and tension was lessened. However, it was noted that the incidence of nausea had increased and a longer recuperative period was required. Reasoning from this, it was assumed that nausea was induced by oversaturation or too deep an anesthesia. As time went on, I felt there was another contributory factor, and I am convinced that nasal breathing is a very important element in anesthesia discomfort. In

* Read before the Society for the Advancement of General Anesthesia in Dentistry, New York, N. Y., December 15, 1930.

talking over this particular idea with one of my dental colleagues, he said, "I think you are right. An olfactory disturbance resulting in nausea is a distinct principle," and he went on to state that his father, one of the leading dentists in America, in the early days was in the habit of drilling teeth under a light chloroform anesthesia, and he had made the discovery that if the patient inhaled the chloroform, there was a free disposition to nausea. After that discovery in every one of his chloroform cases the anesthesia was given through the mouth, with the nurse holding the nasal passages, and nausea was eliminated.

That was one beginning. I am quite aware of the fact that some of my colleagues claim that nausea has its inception in certain levels of anesthesia, that is, in the excitement or so-called second period or in the fourth period, the dangerous level. I have tried to check up on those areas, and I am inclined to believe that there is something to it, but I have not lost sight of the fact that nasal breathing is a factor.

This nitrous - oxid - oxygen method gave the operator greater leeway and much more freedom. In other words, it was a relaxation for me, as I did not work under such a strain. I found that I could keep my patients asleep and comfortable, though perhaps many times not so well anesthetized as I should like to have had them. We had fighters; we had people who were nauseated. I checked up with some of my colleagues, and they admitted that they had the same irritations, although from others I would get the admission that it was a very rare thing to have a fighter or a nauseated patient.

About this time I figured that the flaw was within myself, that I had not mastered the principles I was using, and it was then that I found other difficulties with the nasal- and mouth-breathing apparatus. You are all familiar with that little accessory mouthpiece that is supposed to deliver nitrous oxid to the mouth. I found with many of my patients (perhaps I am speaking territorially—I work for athletes and iron-workers, for Bridgeport is a manufacturing town) that about the twenty-fifth or thirtieth second of the induction there was an intense desire to get air through the mouth, due to the inability of the mouthpiece to deliver a volume commensurate with the capacity of the patient's lungs. Then we had a ten- or twenty-second period of nervousness which the patient always remembered, describing the experience much in this way: "I never felt a thing, but the anesthetic made me feel as though I were drowning." This puts a different light on our service, because we are inclined to believe that because the operation was done painlessly, the anesthetic, such as it was, was justified, as if trading one irritation for another squared things up.

Rapid vs. Slow Induction

At this time I was much concerned about the efficacy of the gas tube producing anesthesia through the mouth, so I wrote to the manufacturers telling them of my dilemma. The answer would come back that the mouthpiece was not intended for anesthesia. It was a compromise.

Out of my own experience, from watching others and theorizing with

men who have had much experience with nitrous oxid, I found that there were two schools of operators, one claiming that quick induction was the better method and the other that slow induction was the more satisfactory. I am not committed to either method. In checking up all this experience and going back to the time when I thought patients could be comfortably anesthetized by use of the face mask, I began to think, "Why not go back to the first principle of starting anesthesia with the face mask, allowing the patient to breathe either through the nose or through the mouth, but preferably through the mouth?" Here again I think there is another principle that might give us a little light. In our oral work our objective is to get the mouth as wide open as we can and so we use a mouth prop. If any of you will open your mouth as wide as you can and try to breathe through your nose, you will find that you do not breathe so freely through your nose as through your mouth. You might compare this situation to the pedestrian who walks down the street with his mouth wide open, trying to breathe through his nose. He just doesn't do it! That is what we are trying to do with the nasal induction.

I began to experiment with the face mask again, and here is something to think about and something for the manufacturer of gas face inhalers to ponder over, for if you test some of these face inhalers, you will find that very few of them function properly, since there is just as much discomfort in exhalation if the parts are not free as there is in inhalation if the gas pressure is not balanced. The face inhalers can be tested very easily without recourse to nitrous-oxid anesthesia.

My Present Method

My anesthesia today is, first, induction with the face mask, reassuring the patient that he may breathe any way he wishes, but preferably through the mouth. This is induced either slowly or quickly. I find that I have better control for doing slow induction or quick induction with the face inhaler. When the surgical period of anesthesia is arrived at, the face mask is lifted and the nosepiece adjusted and the lever switched to deliver gas to the nosepiece. In order to make this particular move smooth, I had an engineer friend of mine devise a valve with a double outlet to be attached to the gas machine. One outlet delivers to the face inhaler, and the other delivers through the yoke which contains the nasal piece. I have given this much service, and I know that it does the work very satisfactorily in a number of dental offices today.

I recall visiting Dr. Walter Barry's office, in Newark, N. J., a number of times. Dr. Barry does wonderful induction work with the nasal inhaler and mouthpiece. In all the nitrous-oxid cases I have seen administered in his office, I have not seen one that was not ideal and good to watch. I have talked this method of mine over with him, and I think he is justified in saying, "Why should I change? My method satisfies me because I am not getting the reactions you say you do." That brings up again the fact that perhaps with the nasal inhaler and accessory mouthpiece, in my hands, it is I who am at fault.

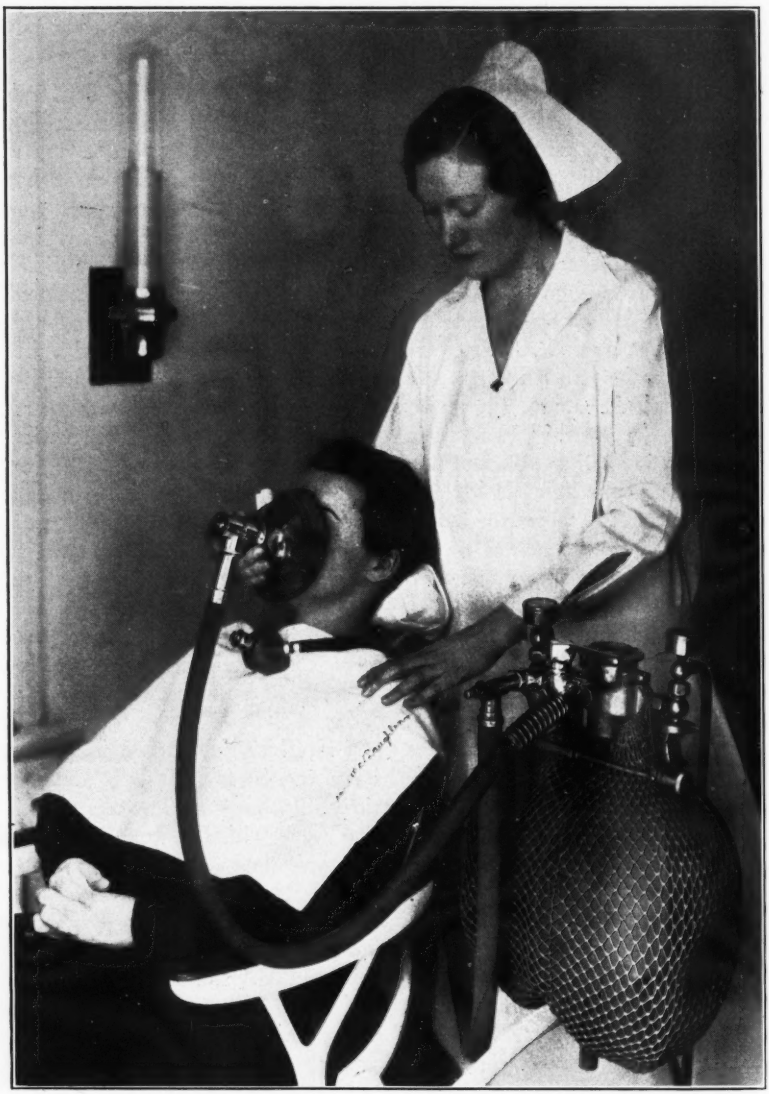

Fig. 1
Starting anesthesia with the face mask.

Fig. 2

Showing the face mask and nasal inhaler attached to yoke, by means of which the gases may be shifted from one to the other.

The Handling of Children

The handling of children, to my mind, is greatly enhanced by the use of the facepiece. It is a control over the head. I know because I have tried both methods, and prior to the use of this new combination it was my plan to start the induction with the facepiece, removing the facepiece from the tube and switching to the nasal inhaler for prolonged anesthesia. Time was lost, and many times the child was revived with two or three inhalations from the air. By this new method I find that there is only a second lost in making the shift.

Novocain vs. Nitrous Oxid

I do admit that to be biased on the side of gas-oxygen anesthesia for oral operations is temperamental. This brings up the old dilemma and controversy about the values of novocain and nitrous oxid. How frequently you see a novocain user get up at a meeting and say that the anesthetic of choice for all operations is novocain! After looking at the speaker and listening to him one would know why his choice was novocain. My conclusions are that he is temperamentally and physically unfit to use gas anesthesia. One never hears a gas man get on his feet and say that gas anesthesia is his choice exclusively, because he knows that in many cases he would not, or could not, use gas; but the practitioner with only one tool is naturally opinionated. It is my feeling that men equipped to administer nitrous-oxid anesthesia do not make great claims. They do gas work because they like it, and because they think they fill a need, and after all the test is—how useful is it? That usefulness is reflected in the comfort of the patient pre-operatively and post-operatively. I think that if I can carry patients comfortably through induction and they are comfortable in coming out, they have a pleasant memory of it afterward and they are going to say something kind about it.

The Patient's Attitude

If we are to be successful, we first must be useful. If I wish to be useful, I must have the factors for making the operation pleasant. That brings up the point of attitude of the dental patient. I might describe it by saying that he comes to your office, walks in and expects to walk out, no matter how hard the case may seem. The mental attitude of the hospital patient is different. He has expected something trying and has arranged his affairs; there is that temperamental difference between the patient who comes to the dental office and the one who goes to the hospital. It is in this area that I have tried to improve my service and get away from the discomforts of anesthesia.

I am not exploiting a machine, but just the idea. It is a subject which one could discuss for hours. The one big step forward has been the feeling that I do not suffer the irritations which are the inheritance of a gas-oxygen anesthetist, as I formerly did. Now I have a feeling of security; at least, I can put patients to sleep without those annoying seconds in the first period of induction, and it is a means of lessening many of the irritating factors in exodontic offices.

Much of the credit in working out this method is due to George Fahy, of New Haven, Conn., Frank Rounds, of Boston, Mass., and George Winter, of St. Louis, Mo., who, working in cooperation with me, gave me many valuable suggestions and find it, in conjunction with many other exodontists in America, very valuable.

Summary

(1) Gas-oxygen induction with the proper face inhaler for oral operations, followed with the nosepiece on the yoke, eliminates that smothering feeling that the patient might receive in the first moment of induction.

(2) It makes it possible to produce

quick induction, if so desired, on obstreperous patients.

(3) It is a big step forward for overcoming nausea.

(4) It is more comfortable to patients with nasal obstructions.

(5) In administering to children the operator has much better control of the child.

(6) In many cases the work can be done and over with without using the nasal inhaler.

(7) The method works.

601 Medical Building

DISCUSSION

By Walter F. Barry, D.D.S., Newark, N. J.

This system that is being used by Dr. McLaughlin is being used also in a number of exodontists' offices throughout the country, only in a very much cruder way. Many of the men are using mouth-inhalers, as you know, and after they get the patient down they pull the mouth-inhaler off and switch to the nasal inhaler. This apparatus of Dr. McLaughlin's undoubtedly is a very much more efficient appliance for that type of anesthesia.

I have been in Dr. McLaughlin's office a number of times, and I have seen him handle this apparatus in a very efficient way. He handles his patients very nicely, and his anesthetists handle them very nicely. I must admit that I have not used it myself as yet.

However, I must say that I am very much in favor of nasal inhalation, not so much on account of the apparatus but because I can get a much more satisfactory anesthesia, and I attribute that entirely to the slow-induction method. Many men, of course, will say that I am all wrong on that, and that is undoubtedly due to the fact that they get better results by the rapid-induction method.

Years ago I was doing rapid induction, back in the days when I was an intern at the Philadelphia General Hospital. We had the old gasometer with a couple of bricks on top of it, and we would slap the inhaler over the patient's face and try to knock him down as quickly as we could.

Later on we came to the nasal-inhalation method, and that, in my opinion, is preferable in my hands to the rapid-induction method. Of course, I readily understand that you can get a slow induction if you use the mouth-inhaler. But still, due to our experience, we stick to the nasal inhalation. As a matter of fact, I have used the mouth-inhaler only once—only once in about nine years. In that particular case it was due to the fact that the patient had carcinoma (the whole cheek wall had been eaten away), and it was necessary to have something to cover over that tremendous gap in order to anesthetize this patient.

Dr. McLaughlin and I have talked over this question of slow induction and rapid induction a number of times. Years ago, in the hospital, when a patient was to be given ether, we sometimes took a newspaper (this is over twenty years ago) and rolled it up, made a cone of it, stuck a couple of safety-pins through it, filled that cone

with gauze, took 100 c.c. of ether and poured it in and saturated the gauze so that the ether was dropping and then we soaked it right over the patient's nose and mouth. That was done in those days. We did it all the time, and we did lose a patient once in a while.

About that time some one conceived the idea that we should use a chloroform mask to give ether—hold the chloroform mask over the nose and mouth and gradually drop the ether on. I may be wrong, but it has always been my idea that the satisfactory anesthesia they got at that time was due entirely to the fact that they could not give a rapid induction.

There was a great deal of talk in those days in the medical and dental professions, especially in the former, in favor of the open method of giving ether. I really believe that in the beginning the men who were giving this anesthesia did not realize that they were getting more satisfactory anesthesia because they had to give a slow induction. They could not crowd the patient, because the patient was getting a certain amount of external air. We saw a great deal in the magazines about the open method of anesthesia as compared to the closed method. After a while the former method was almost universally adopted, whether the ether was administered with a gauze or by some machine, so that the patient could breathe some external air.

I also think that in most cases of nitrous oxid and oxygen anesthesia, if you succeed in getting the confidence of the patient before you start, and if you convey the idea to that patient that you are going to take care of him, that he has absolutely nothing to fear, that you are there to make this thing just as easy for him as possible, that he is not going to suffer the slightest inconvenience, that you are going to take every care of him and you are going to get him out of this little operation in a very nice sort of way—if you can gain the patient's confidence and get him to feel that you are there to take care of him, you have carried him over a very rough spot.

I have gone into a great many exodontists' offices, and this does not apply to Dr. McLaughlin or any of the other men who are here in whose offices I have been, because I have been in a great many of them. I think the manner in which the anesthesia is given in a great many of our offices is simply terrible, and for this reason: you have a highly excitable, nervous patient, for instance, and the nurse and the doctor stand there, the doctor talking to the nurse all the time. He puts the mouth-inhaler over the patient's mouth and starts with nitrous oxid. He is talking, the nurse is talking, there is noise around, and in my opinion the psychological effect on the individual patient is unfortunate. Whereas, if things are quiet, and if you speak to the patient and try to impress on him that it is your job to take care of him, that he has absolutely nothing to fear, he will go along very, very much better than if there is a lot of noise and talking, for under the latter condition the patient believes that you are not paying sufficient attention to him. He feels that his life is in your hands to a great extent, and that you are neglecting him if you are not giving him your undivided attention.

In regard to these big, powerful men, I have seen men who have told me previous to the anesthesia that they had "busted" up somebody's office, and they really take off their coat and vest and get ready to "bust" yours up. I start off by saying to such a patient: "Now you are not going to 'bust' up anything. You are going to lie in this chair and go to sleep just as quietly as you are sitting there now. I am going to take these teeth out and I am going to take care of you, but I want you to do one thing—do just what I tell you to do. Follow my instructions and do nothing else."

If I can get that patient's confidence, I know that in many cases I can anesthetize that patient without the slightest bit of trouble. We don't see many fighters any more. We did have them years ago, but we use the nasal-inhalation method invariably, even with little tots three and four years old. Just a little while ago I had a little child whom I almost had to hold on my knees and sit in the chair with myself to give her a gas-oxygen anesthesia in order to extract some teeth.

We do that all the time with nasal inhalation. I am not talking nasal inhalation as opposed to Dr. McLaughlin, because I know he gets marvelous results with his method. I have not tried it yet, but I am inclined to believe that, as against the mouth-inhaler and the change to the nasal inhaler, I am still going to stick to the nasal inhaler, although I am frank to admit I may change.

There is another thing I might mention, and I believe this is a common fault with many of us. I do not believe that any patient should be asked to accept in any one inhalation any more gas and oxygen than the capacity of his lungs cares to accept at each inhalation. I believe that this period of excitation is very frequently caused by the crowding of the patient, by insisting, by pressure, that the patient take more than he can accept in a normal inhalation. I believe, also, that the period of excitation is tremendously exaggerated by this method.

Another argument in favor of slow induction, which in my opinion and my experience has been very conclusive—I do not believe that in any anesthesia, whether it is gas, chloroform, ethyl chlorid, ether, or what it may be, we should carry the patient from a normal physiological condition into a period of anesthesia in too rapid a way. I think the shock to the central nervous system, to the brain cells, to the blood stream, to any part of the human economy that may be affected in anesthesia is brought about in too rapid a way by rapid induction. I feel that that patient will invariably do better if he is carried from a state of normality into a state of anesthesia in a slow, quiet way. I think the anesthesia is better, and that the patient goes through it very much better and with less shock.

That is all I have to say in reference to this. Dr. McLaughlin and I have argued on rapid and slow induction for a long time, but I have yet to have any one prove to me that rapid induction with nitrous oxid and oxygen is preferable to slow induction.

51 Central Avenue

An Outline of Dental Pathology

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I

In the following pages an effort is made to present to dental and medical practitioners a comprehensive study of the pathological manifestations of the structures of the teeth. The subject of pathology, or the science which treats of disease, depends largely upon the clearness and accuracy of one's knowledge of the fundamentals of both gross and microscopic anatomy. In this outline it will be necessary to review briefly some phases of general pathology so as to correlate better our findings in oral pathology.

Disease

Disease is a process or an abnormal activity of certain of the physiological functions of the body in response to an injury. This may or may not be associated with appreciable morphological alterations of the body structure.

Classes of disease conditions. The body may be subjected to harmful conditions which incite disease, and these conditions may be divided into *external* and *internal.*

External Conditions of Disease

Disturbances of nutrition.
Excessive, deficient or unsuitable nourishment may cause disease.

Air supply.
Failure of proper respiratory function may lead to dyspnea or even suffocation or strangulation.

Occupation.
A great deal of attention has been paid quite recently to the rôle that occupation plays as a causative factor in disease as evidenced by lead poisoning in painters, silicosis in quarrymen, etc.

Excessive or deficient heat.
Local exposure to extreme heat or cold induces necrosis and various phases of inflammation of the tissues.

Trauma.
The body may suffer from various forms of mechanical injury.

Foreign bodies.
The presence of these in the body is often an excitant of disease.

Poisons.
Certain forms of poisons acting externally are harmful to the body.

Internal Conditions of Disease

Race.
Negroes are more susceptible to tuberculosis than whites.

Age.
Certain diseases are almost concomitant with certain ages.

Sex.
Conditions incident to child-bearing cause more or less abnormalities.

Heredity.
Susceptibility to disease may be inherited, as in tuberculosis.
Other hereditary anomalies are hemophilia, color-blindness, etc.

CHANGES IN THE CIRCULATION OF THE BLOOD

Hyperemia.

A condition in which an excessive amount of blood exists in a part. Hyperemia may be either *active* or *passive.*

Active hyperemia or acute congestion may occur through dilatation of the arteries.

Passive hyperemia or venous congestion is due to some hindrance to the venous outflow of the part. There is an overfilling of the veins and capillaries.

Anemia.

This condition, when general, indicates an impoverishment of the blood.

Local anemia or ischemia denotes a lack of blood in a part.

Hemorrhage.

An escape of blood from a blood-vessel.

Forms of Hemorrhage.

Petechiae.

Very small hemorrhages.

Ecchymoses.

Large, diffuse accumulations of blood in the interstices of the tissue.

Hematoma.

A collection of blood in a tumorlike mass.

Special names are given to hemorrhage in different parts of the body, as *epitaxis* (nosebleed), *hemoptysis* (bleeding in the lungs), etc.

Hemophilia (*hemorrhagic diathesis*).

An abnormal condition consisting of a liability to persistent hemorrhage on the slightest provocation. It is usually hereditary, being transmitted only through the female line and manifested in the males.

Transudation.

The passage through the walls of the blood-vessel, into the interstitial spaces outside, of a fluid from the blood. An accumulation of transuded fluid in the interstices of the tissues is called *edema.*

Thrombosis.

The coagulation of the blood into a more or less coherent mass during life. The coagulum or mass is called a *thrombus.*

Embolism.

The obstruction of a blood-vessel by the arrest in its lumen of some material carried along in the circulating blood. The mass causing the stoppage is called an *embolus.*

Infarct.

A mass of tissue that has undergone degeneration because the end or terminal artery which supplies it has been blocked by an embolus or a thrombus. The affected area is usually cone-shaped, the base of the cone being at the surface of the organ and the apex at the point of obstruction.

REGRESSIVE TISSUE CHANGES

The cells of the body, when placed under conditions which seriously interfere with the orderly transformations of energy, may undergo alterations from the normal. These may be *regressive* or *progressive.* Under the heading of retrograde changes are considered such processes as infiltration, degeneration, pigmentation, calcification, atrophy and hypoplasia.

Atrophy.

A diminution in the size of the

organs or tissue elements. Atrophy must be distinguished from hypoplasia, in which there is an incomplete development.

Atrophy occurs also as a physiological condition, as evidenced by atrophy of the thymus and umbilical vessels at an early age.

Atrophy may be *general* or *local* and is caused by disturbances of innervation or nutrition, from disuse or from pressure, or from the presence of poisons.

Degeneration.

The accumulation of abnormal substances within the cells or tissues. Such deposits usually interfere with the normal functions of the cells and tissues.

Albuminous degeneration (cloudy swelling).

The accumulation in the cytoplasm of the cells of albuminous granules of various sizes. This is frequently seen in infectious diseases. The cells are usually swollen and are somewhat cloudy in appearance. The liver and kidney cells are the ones usually affected.

Fatty degeneration and infiltration.

Here the fat is formed by a degeneration of the protein elements of the protoplasm, while fatty infiltration is due to the simple accumulation in the cells of fat formed elsewhere.

In fatty infiltration the fat globules coalesce and push the protoplasm against the cell wall, but the protoplasm is still normal. In fatty degeneration the protoplasm of the cell is replaced by fat formed from it.

Mucous degeneration.

This may occur in cells or intercellular substance. It consists of the transformation of the protoplasm into a translucent, ropy, semi-fluid material, occupying more space than the unaltered protoplasm and hence causing a swelling of the cells.

Colloid, hyaline and *amyloid degeneration* are also forms of retrograde processes.

In *colloid degeneration* the cells appear to have a rather mucinous or gluey appearance.

In *hyaline degeneration* there is a transformation of tissues into a transparent glassy substance.

In *amyloid degeneration* the tissues have a waxy appearance.

Calcareous infiltration.

A condition in which there is a deposition in the tissues of granules composed chiefly of phosphate and carbonate of calcium (lime). These salts are deposited from the blood, in which they are in solution.

Calcification never occurs in normal tissues (except in the formation of bones), but only in damaged cells and tissues. Calcium is deposited in places where cellular life is least active. When in the course of life the cells decrease in their activity, calcium tends to infiltrate in the regions which they control. Calcareous infiltration of a tissue is a sign of senescence.

Pigmentation.

This denotes the presence of abnormal amounts of coloring matter in the tissue. Under normal conditions a certain amount of pigment exists in the body. The pigment which is formed under pathological conditions may be derived from the blood, *hematogenous;* from the bile, *hepato-*

genous. Where an obstruction of the gall-ducts occurs, due to inflammation, tumors, etc., the bile may then enter the blood, resulting in the discoloration of the tissue.

This condition is known as *jaundice* or *icterus.*

Extraneous pigments.

Pigments introduced into the body from without, *e. g.,* deposition of minute particles of lead, resulting in lead line on the gum.

Inhalation of coal and other dust gives rise to a condition known as *pneumonokoniosis,* the lungs and bronchial glands showing black-colored areas.

Necrosis.

The death of a circumscribed portion of tissue in the body. The process may involve a few cells or affect extensive areas. The cause of necrosis is, primarily, insufficient nutrition, due to the interference with the blood supply and the circulation of the parts involved. This interference may be due to (1) bacterial action, (2) poisons of all kinds, (3) mechanical injury.

Types of necrosis.

Liquefaction necrosis.

The necrotic tissue results in a mass of degenerated cells with more or less fluid.

Coagulation necrosis.

This signifies that the fluids within the affected areas have become coagulated.

Caseation or cheesy degeneration.

The dead tissue elements lose their normal structural features and become converted into an irregularly granular albuminous and fatty material.

Gangrene.

Death of a considerable mass of tissue, which undergoes putrefaction while still attached to the body. The involved part, when on the surface of the body, may dry and become hard and brown or black, and this is known as *mummification* or *dry gangrene.* On the other hand, it may, when putrefactive bacteria are present, in addition to discoloring, become soft and infiltrated with foul-smelling gases (*moist gangrene*).

5 East 57th Street

(*To be continued*)

Dentistry In India

By WALTER BUCHLER, London, England

Before modern dentistry was introduced into India, the people used to go to the doctor with any troubles they had with the teeth, or they would consult a jeweler, who, in some cases, would practice dentistry, make artificial teeth, put in gold studs and even ligate teeth when loose. This is still part of the work of many Indian jewelers in both towns and villages in India. His charge is invariably less than that of a professional dentist, and a jeweler in a town will charge, on an average, from 20 to 30 rupees for a complete set of teeth, although there is nothing like fixed charges in India, where all offers and quotations by word of mouth or by letter are subject to haggling.

Foreign *qualified* dentists first came to India about forty years ago, the first dentist, an American, being followed about twenty-five years ago by English practitioners. The first European to open practice in India started in 1887. He took in a few Indians as apprentices, and they, in time, set up in practice on their own account. Other Indians soon followed suit, and both they and the Western pioneers did a roaring business, charges then being about the same as they are today in India, though at that time the cost of living was much less.

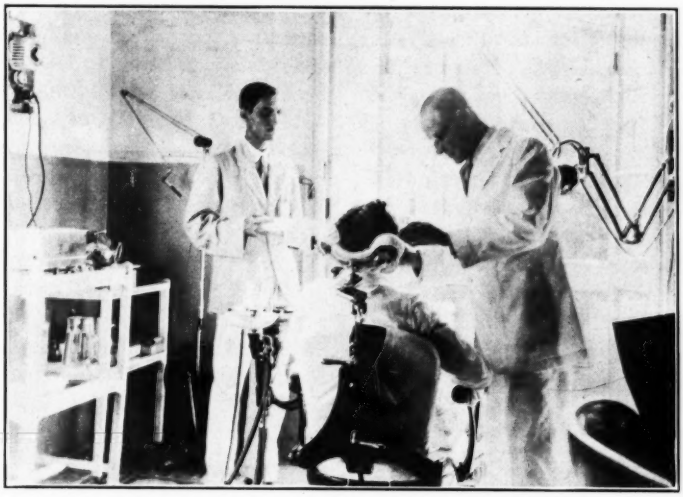
The present scale of fees charged by dentists in India is as follows:

	Unqualified men	*Qualified Dentists*
Extraction	8 annas to 2 rupees	3-10 rupees
Gas	Generally not given	7-20 "
Filling	2-5 rupees	10-25 "
Pyorrhea Treatment	Do not treat	50-100 "
Partial Dentures	1 rupee per tooth to a certain number	5-10 " per tooth to a certain number
Complete Dentures	25-75 rupees	150-300 rupees

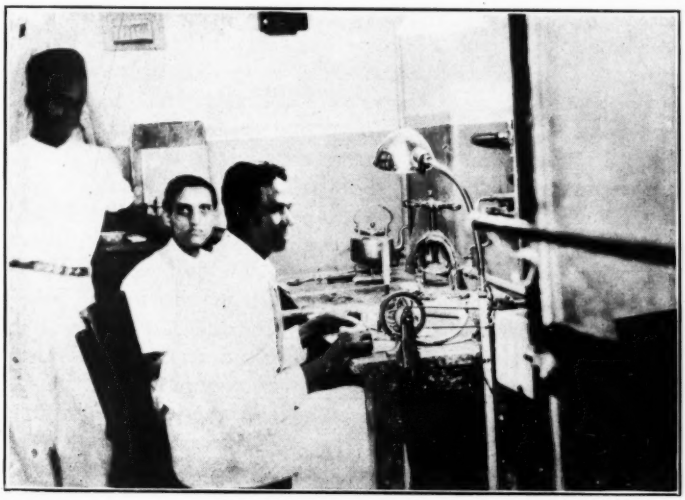
Gas is used by very few unqualified dentists. As a general rule, the dentist himself gives the gas and also extracts teeth.

The majority of the Indian practitioners were, and still are, unqualified men. The general practice in India is for a man to work six to twelve months with some one already in practice and pay him 500 to 700 rupees for the training. In fact, the present state of dentistry in India is most extraordinary. There are about 5,000 dentists in all throughout the country, 95% of whom are unqualified, and it is no exaggeration to say that the majority of these 95% are nothing more than quacks. Their offices are poorly equipped, having nothing more than the bare necessities, such as a chair, a dental engine, a small cabinet, a few medicine bottles, a vulcanizer and a work-table. Anybody and everybody, with or without dental education or without any education at all, can set up as a dentist wherever he likes in India, even in the leading cities, such as Calcutta and Bombay. There is no ordinance nor authority controlling this profession and setting a standard or compelling it to adhere to some professional etiquette, which few of the 95% mentioned above do.

Ten years ago there was a tendency among Indians to go abroad (to Eng-



An Indian dentist of Bombay at work in his operating room.



In the laboratory of an Indian dentist in Bombay.

land) for the study of dentistry. But today few are inclined to go or are even in a position to do so on account of lack of means and because of the high cost of training abroad. Another deterrent is the political atmosphere in Great Britain, which Indians feel (rightly or wrongly) is against them. The greatest damper, however, to their ardor to study dentistry in England is the lack of protection afforded by the Indian Government against quack competition. There is no greater inclination to study in Germany or in any other country in Europe, because a qualified man from there is no more recognized than one with no qualifications whatever. Among Indians with a fair education there is today the feeling that a dentist with an American degree is superior to one from anywhere else in the world. This, it appears, is the general consensus of opinion among the Indian public, hence Indian dentists make a big display of any American degree that they may possess so as to enable them to get more clients.

The Indian who lives on the food he (or she) has been accustomed to take since earliest times has, as a rule, better teeth than the man who adapts himself to Western diets. True, their diet is coarse in quality and quantity, consisting of "jowar" bread (a kind of maize), salt, onions, etc., and, for those who can afford it, also plenty of vegetables. There is a total absence of sweet things in their diet, and their teeth benefit accordingly. In a word, the more the Indian lives up to nature as regards his diet, the better are his teeth. In this the Parsees provide a typical example. They are today the most modern of the races living in India, and they have taken to all sorts of Western foods. Their children are big eaters of chocolates and sweet things in general, and both young and old among them now take to softer foods than their forbears did. The result is that the Parsees have more trouble with their teeth than do either Hindus or Mahomedans. Caries, pyorrhea, and general irregularities of the teeth are frequent among the Parsees.

In India gold decoration of the teeth dates back to thousands of years ago, and the custom has always been widely practiced in the country. Hindus are particularly fond of it, but not many Mahomedans go in for gold decoration, and Parsees do not like it at all, considering it ugly. The origin of this custom probably lies in the fact that in ancient times the old Hindu doctors mostly treated the cavities, resulting from the decay of teeth from one cause or another, with gold. This metal has always been very well known in India, and doctors did not have other materials such as cement and amalgams. Their experience in manipulating gold was ever so much better than with any other metal, and this was probably a factor also in helping to spread the fashion of having teeth decorated with gold. Still more popular were (and still are) gold studs in the teeth. Frequently the gold studs are set with jewels. This is done by jewelers and not by dentists. These jewelers are expert at this kind of work, their knowledge being handed down from father to son, and it must be admitted that even from a dental point of view the work is very cleverly done, because to put gold studs in requires a hole through the tooth, which Indian jewelers drill without killing the pulp inside. No means are taken by them to

alleviate pain, but there cannot be much, as otherwise not so many people would have it done.

Nowadays the fashion is to have gold teeth in front, but this has come more from Japan than from the West. Japanese dentists in India (there are quite a few in the larger cities, such as Calcutta and Bombay, where they have their practices in the heart of the city or, rather, the "East End" of the town) make a specialty of gold decoration for the teeth. In India, however, it is more the dentist than the client himself who is responsible for this, as he gives his patient to understand that gold protects the teeth besides looking "very beautiful."

The teeth of Indian women are no different from those of the men. Purdah women, however, do not see dentists, except in extreme cases, when they are called to the home. Purdah women probably are more free from caries but are more liable to suffer from pyorrhea, as they generally indulge in "pan-sopari" (chewing betel-nut). This chewing keeps the teeth free from caries on account of the constant friction, but causes pyorrhea because of the astringent action on the gums.

When Indians return from a visit or a stay in Europe, they usually come back with a mouth condition worse than before leaving India. Adoption of Western modes of living is said to be the cause, as, when they revert to their former ways of living, there is a noticeable improvement in the condition of their teeth. Some Indians, however, attribute this to climatic conditions in their own country or to some chemical composition in the water and not to any change in their mode of living.

Toothbrushes are being more and more widely used in India, but the majority of the people still use "baval" sticks, made from twigs of the baval tree (of the Acacia variety), one end of the stick being frayed, and the frayed end is used as a brush. No toothbrushes are made in India, all being imported. Tooth-powder also has become popular, that consisting of burnt charcoal being the most commonly employed; ash of cow-dung as well as ash of a variety of woods is also used. Imported brands of tooth-powder and toothpaste are growing in popularity, cheapness and not quality being the one and only consideration that influences the average Indian.

Among qualified dentists in India there is a tendency today to use more modern dental equipment, such as x-rays, electrical engines, ultra-violet rays, etc. Dental departments are attached to practically all hospitals in India, but in many cases the men in charge of these departments are not qualified and are equipped only for extractions of teeth. In Calcutta, however, there is one dental hospital, semi-charitable in nature, which can really claim any pretense to being called a proper dental hospital where all kinds of dental work are done. This is the Dental School and Hospital, and, taken as a whole, it is fairly good and meets an ever growing need.

European residents in India generally patronize American or English dentists, but also go to such Indian practitioners as have established a sound reputation. What India needs today—and it is an urgent need—is a spread of dental education, of which there is a total absence at present; dental relief, open-

ing of dental hospitals (at present nil), and the introduction of legislation to make a degree compulsory so as to protect both the general public and the qualified dental surgeon from the injuries (such as sepsis, fractures of the teeth and jaw) inflicted by unqualified men. Unfortunately, there is a total absence of any attempt on the part of the Indian Government to encourage dental education and dental relief. There is complete apathy on its part, nor does it appear to appreciate the value of dentistry to the general good of the Indian people.

261 Goldhurst Terrace

[THE NEED FOR DEVELOPMENT]

I wish to plead for an ideal of the professional man as something other than a great technician. It is true that society legitimately demands efficient service from us, but she should also demand that we develop our faculties in as rounded a fashion as possible, in order that we thereby become able to take counsel together as to how the world is to be made better, more satisfying for each individual, as to how the inevitable changes are to be made. A democracy needs a body of educated men in this sense of the word. Too often our great specialists today—in business or the professions—make themselves absurd by public pronouncements on subjects with which they have only the most superficial acquaintance. In our contemporary society we have lost much of the delight of being associated with our fellows in an intelligent, unselfish effort toward a common end conceived as good. The professions should seek to foster this satisfaction in public service, but in order to do so they must cultivate among their members a love of history and literature and general ideas, a consciousness of our common life, the effort of the race, its achievements and aspirations, its enduring possessions.

—WALLACE.

Dentistry As I Found It Fifty Years Ago

By WILLIAM HARPER DeFORD, D.D.S., M.D., Des Moines, Iowa

I

It has been fifty years and more since the writer became interested in dentistry. We dentists of that period thought dentistry had just about reached its ne plus ultra. There had been so many advances and improvements over previous years that it seemed as if we were running in high, but, looking backward from our present vantage ground, it appears that we had hardly reached *A* in the alphabet of progress.

Instruments

The dental foot engine was attracting the attention of the profession, and many dental offices had not installed one. I recall that the Baltimore College of Dental Surgery allowed members of the senior class to use the engine, but it was considered entirely too dangerous a venture for a junior. We relied on the excavator, chisel and hand-bur for cavity preparation.

The burs were the same length as chisels and excavators, and those who were not strong enough to twist them with the fingers used an instrument for this purpose, which consisted of a ring of metal placed on the second finger. A tongue of metal extended to the palm of the hand, terminating in a miniature metal cup, which resembled a bowl in shape. One end of the handle of the bur rested in this little bowl and was twirled with the fingers. The palm of the hand was entirely too tender to support the end of the bur, as considerable pressure was necessary to effect cutting. Cavity preparation had not been systematized, and all that was attempted was just a shape that would prevent fillings from falling out. It was indeed a slow procedure for the dentist and a tiresome nerve-racking experience for the patient.

Mouth Conditions

The public had little knowledge of the value and importance of the teeth and visited a dental office only when suffering became unbearable. Mouths were in a deplorable condition. Even the mouths of the most intelligent, refined and wealthy were shockingly filthy and unsanitary. A casual examination revealed many large cavities, teeth broken off even with and beneath the gum margins, pus flowing freely from fistulous openings draining abscess cavities at the apex of roots, pus oozing out from peridental abscesses and heavy calcareous deposits. Indeed, I have seen mouths in which a tooth or two had been extracted and salivary calculus had bridged the space from adjoining teeth—this is no unusual picture I am painting.

On one occasion a patient presented complaining of a very sore mouth. An examination revealed that he was wearing a partial maxillary denture having a right central incisor, a left lateral, a bicuspid on each side, and, "believe it or not," the history revealed that this denture had been worn for a period of six years and had never been removed from his mouth. Heavy deposits of

salivary calculus on the adjoining teeth had impinged on the denture and held it firmly in position. He said he did not know that he was supposed to remove the denture for any purpose, as his dentist had not given him any instruction relative to removing and cleansing it.

Anesthetics

The status of anesthetics was about as follows. Of course there were no local anesthetics. Nitrous-oxid gas was being used by only a few dentists. As there was no place where one could go for anesthetic instruction, each dentist had to perfect his own technic. The appliances were crude and unsatisfactory. Some dentists manufactured their own nitrous oxid. At the time I am describing, nitrous oxid was used alone, without the addition of oxygen. When several teeth were to be removed, the amount of nitrous oxid necessary to obtain the depth of anesthesia desired produced asphyxiation, and the patient's face would become a deep purple and often black. One of the rules was to inquire if the patient was a heavy drinker or smoker. No one, of course, ever admitted that he was a heavy drinker, so the dentist usually proceeded to administer the anesthetic and had the usual skirmish.

One day, while I was passing along the street, my attention was attracted to what sounded like a fight. Looking up, I discovered that the disturbance was being enacted in the dental office of a friend of mine. I rushed into the office, and what a sight! The dentist had attempted to administer nitrous oxid to a large muscular man, and the fight was on. The patient was resisting violently and had drawn his revolver. The dentist was doing his best to hold the patient in the chair—a Morrison chair. I dropped down on my knees back of the chair (not to pray), threw my arms around the patient and interlocked my fingers, thus preventing the patient from leaving the chair. Just then a big policeman, having heard the disturbance from the street, rushed in and rescued the revolver. Even then we had all the fight we desired to quiet the patient.

On another occasion patients waiting in another dentist's reception room were aware that something unusual was occurring in the operating room. A struggle—a noise as if some heavy object had fallen to the floor—the door was opened, the dentist was on the floor and the patient standing near the chair holding a hammer in his hand. Nitrous oxid had been administered for tooth extraction. It seems that the dentist had been using a hammer and left it on the window-sill in front of the operating chair, after putting up a curtain. The patient had one of those hallucinations so common under nitrous-oxid administration without oxygen. The dentist was driven to a hospital with a fractured skull; the patient was driven to jail.

Dentistry was certainly interesting in those days, if not entirely safe. Tennis, golf and football were unknown, but a dentist could always get plenty of good exercise and excitement by administering nitrous oxid.

In case of multiple extractions it was no uncommon occurrence to have a physician administer chloroform or ether either at the dentist's office or at the patient's home.

(*To be continued*)

"The Montreal Dental Technician"

There comes to the desk of the editor a neat little volume entitled *The Montreal Dental Technician,* published by the Montreal Study Club of Dental Technicians, partly in English and partly in French.

John L. Northwood is the managing editor, and there are listed among the contributing editors eight members of the dental profession. The picture of one of the contributing editors, Dr. George S. Cameron, is given, together with an account of some of his many activities.

There is a very interesting article on the history of the Montreal Study Club of Dental Technicians with a picture of the charter members of the club.

The magazine is well supported with advertising and should be favorably received by those in its city.

THE DENTAL DIGEST wishes it the best of success.

G. W. C.

Mottled Enamel

A research on *Mottled Enamel* by the Nutrition Department of the University of Arizona, with Dr. Cammack Smith in charge, is under way. The University will greatly appreciate it if any members of the dental profession having extracted teeth of this type will send them to

ALEX BARD, D.D.S., *Chairman,*
Consolidated Bank Bldg.,
Tucson, Arizona.

[SERVICE MUST BE RENDERED]

Any appeal to the financial side only that makes the dentist believe that he is justly entitled to a wonderful income, irrespective of whether he is rendering service, is absolutely wrong. On the other hand, it is equally wrong to render service without some consideration of the financial side.

—LAWRENCE.

DIGESTS

STERILIZATION OF THE ORAL MUCOSA

By Henry A. Miller, D.D.S., and J. L. T. Appleton, Jr., B.S., D.D.S.

The number of antiseptics of value in disinfecting the mucous membrane is limited, and the demands made on them are exacting. This is due to the histological structure of the mucous membrane, the lack of accessibility, and the fact that it is a favorable environment for bacterial growth. A preoperative antiseptic must be non-irritating, rapid in action and of high efficiency.

Until recently iodin has been the agent of choice, but it had the objection of being irritating, sometimes produced blistering and sloughing, and there were occasional idiosyncrasies. In the past few years certain substitutes have been offered, such as mercurochrome, metaphen, hexylresorcinol and the anilin dyes.

It was found from experiments that 2% mercurochrome in acetone, alcohol and water is 93.3% efficient. Tincture of iodin, U.S.P., though efficient, is too irritating for use in the mouth. Tincture of iodin, one part, plus ether, two parts, is efficient but may be nauseating. Tincture of iodin, one part, plus acetone, one and one-half parts, plus glycerine, one-half part, is non-irritating, efficient and highly recommended. Iodin 1.25% in 70% isopropyl alcohol is non-irritating and efficient and worthy of attention.

The following technic is proposed:

The mouth should be sprayed with liquor antisepticus alkalinus, and the area wiped dry with sterile cotton or gauze. The field is then painted with one part tincture of iodin, plus one and one-half parts acetone, plus one-half part glycerin. There should be a period of waiting of at least one minute, and the lips, cheeks, tongue and saliva must not come in contact with the area until the operation is finished. —*The Dental Cosmos*, January, 1931.

VINCENT'S INFECTION: MICROSCOPIC DIAGNOSIS

By Francis H. Daley, D.M.D.

The author claims that in order to make a positive diagnosis of Vincent's infection a microscopic examination is necessary. This is because there are other diseases of the oral cavity that resemble Vincent's infection.

The success of the examination depends to a great degree on the smear. If this is thick, there is a smudge, and if too thin, a proper diagnosis is impossible.

A case is negative when the slide shows no organisms or only a few. If the organisms are widely scattered, not much importance need be attached to their presence. They are found in

normal, healthy mouths, particularly after meals.

A case is potential when the organisms are scattered throughout the field, and while they may not be in large numbers, yet they give the impression of tending to mass. If the mouth from which the smear is taken gives evidence of poor hygiene, then prophylactic measures are advisable.

When a case is positive, the microscopic picture is unmistakable. The organisms of Vincent's are in practically pure culture.

Patients should not be discharged as cured until clinical symptoms have disappeared and smears are negative. In a short time the organisms may reappear in small numbers.—*The Journal of the American Dental Association,* January, 1931.

THE CAUSE OF THE RAPID DECAY OF OCCLUSAL ENAMEL FISSURES

By CHARLES F. BODECKER, D.D.S., F.A.C.D.

The author states that occlusal enamel fissures decay more frequently and rapidly than do the other surfaces of the teeth, even though these other surfaces may be just as defective. The reason for this is the force of mastication.

The enamel fissures contain a soft gelatinous mass, or plaque, composed of finely divided food debris and mucus. The fermentation of carbohydrate food in and under this plaque forms lactic acid, which is sealed in the orifice of the fissure and cannot be diluted by saliva. Consequently, under the force of mastication the acid is driven into the dentin, and because of this there is rapid decay.

The other surfaces of the teeth are not subjected to the direct force of mastication, the acid is not forced into the fissures, and decay is less frequent and not so deep. Occlusal enamel fissures will decay when caries is not particularly active in other parts of the mouth.—*Dental Items of Interest,* January, 1931.

SOME STUDIES OF ABSENT AND UNERUPTED THIRD MOLARS

By E. A. THOMAS, D.D.S.

The author made a study of 200 students from 16 to 21 years of age and found that six had all four third-molar germs missing, two had three of the germs missing, six had two germs missing, and thirty had one germ missing.

He concludes that third molars are becoming extinct in the human anatomy, that the physiological forces that cause teeth to erupt are always present, and that the activity of these forces depends upon the nervous, physiological and pathological status of the patient. These forces may cease and become dormant at times, but may be stimulated suddenly into activity.—*The American Dental Surgeon,* January, 1931.

CYSTS IN THE INCISOR CANAL

By JOSEPH SCHROFF, M.D., D.D.S.

So-called *enlarged incisor foramina* may be a pathologic condition, but in

the absence of symptoms they may only indicate that the drainage of secretions is effectual.

When there is a history of repeated swellings in the papilla palatina area or of neuralgic pains along the side of the nose and eye, operative interference is indicated. The case should be checked up by radiograms.

The operation is fairly simple and is unaccompanied by hemorrhage or untoward complications. Anesthesia is established by topical applications of equal parts 20% cocain hydrochlorid and adrenalin solution.

In edentulous cases, when there is pain in the papilla region, relief in the denture is ineffectual and the removal of the contents of the incisor canal gives favorable results.

These cysts occur symmetrically in the median line and occupy the exact site of the incisor canal. They are not of dental origin, but may affect the condition of the teeth or in turn be affected by them.—*The Journal of Dental Research,* December, 1930.

Foreign Dental Literature

Edited by JOHN JACOB POSNER, LL.B., D.D.S., New York, N. Y.

EXTRACTS FROM THE ITALIAN DENTAL CONGRESS HELD IN VENICE, SEPTEMBER, 1930

IMPROVING ANESTHETIC AGENTS

By J. JARZAB

Novocain and adrenalin are usually acid in a physiologic solution of NaCl. To preserve the mixture, which is unstable because of the oxidation of the adrenalin, various drugs are used. These are phosphate or sulphate of soda, hydrochloric acid, thymol, etc. These anesthetic mixtures are thereby preserved intact over a long period of time in sealed ampoules. Their reaction is, however, acid. This lowers the action of the novocain, which is able to manifest itself best in a slightly alkalin medium. The writer experimented with KCl, NaBr, KBr and $CaCl_2$ and found the KCl in 1% strength the best of all. Novocain suprarenin in 1% KCl is slightly alkalin. It is more efficient than when the usual NaCl solution is used.

ANESTHETIC SOLUTIONS

By DR. BELA DE SIMON, Budapest, Hungary

The injection of anesthetics is always more or less painful. The reason therefor is the lack of isotonicity in the solution. Ampoules of anesthetic solutions are usually too concentrated and acid in reaction. The agents used to keep the suprarenin from decomposing are injurious. Therefore the best solution for injection should be freshly prepared.

EXPERIMENTAL OBSERVATIONS ON SYSTEMIC INFECTION BY WAY OF THE ROOT CANALS

By DRS. B. DE VECCHIS AND SPADA, Turin, Italy

The authors studied the action of streptococcus and staphylococcus through injection of these bacteria directly into the dental pulps of rabbits. They also made similar injections intravenously and subcutaneously. Their conclusions showed that there is much greater resistance in the pulp to invasion by micro-organisms. Injections directly into the blood supply caused rapid death of the animals, but previous injections into the dental pulp gave no ill effects.

This defense is probably due to the fact that the pulp has embryonal connective tissue with a rich reticular stroma and young elements which all together have the function of reticular endothelial tissue. Then, again, the special form of blood circulation without collateral vessels, together with the secretion of odontoblasts, has a neutralizing action on toxins. Considering that 90% of the people have caries, it is astounding to what little extent systemic infections are caused through root canals.

The Care of Dental Canals Through the Use of Silver

By Hugo Trebitsch, Vienna, Austria

The struggle against oral sepsis will not be solved until root canals can be safely filled. The studies of Nageli and Miller have shown the germicidal action of the metals, particularly silver. The author has found that the use of silver powder and a silver point in the filling of root canals prevents infection and renders the periapical area impervious to infection. Diathermy used at the time of filling is of help.

The Kidneys and Infection of the Mouth

By Drs. Aiello and Amodeo, Milan, Italy

The authors have examined the urine in conditions of mouth infection through abscessed teeth, fracture with sequestra, infection about the third molars, osteomyelitis, etc., and have demonstrated a mild albuminuria, which disappeared with the cure of the mouth condition.

Diathermy in Dentistry

By Dr. Mamlock, Berlin, Germany

The author uses diathermy for the disinfection of root canals and is very favorably impressed through three years of radiographic control of teeth so treated. It cuts down the time of treatment of infected teeth. Inflammatory conditions are quickly subdued through diathermy, and it replaces the surgical knife. Diathermy in the author's opinion has a great future.

Pyorrhea Alveolaris

By Dr. H. Greve, Erlangen, Germany

Under pyorrhea were originally described those teeth which became loosened through the disappearance of the alveolus and the formation of pockets containing pus. At present this disease is known in Germany as *paradentitis*. The inflammation about the tooth is only secondary and is but an accompanying symptom. The cause of pyorrhea is still shrouded in mystery. Derangement of internal secretion has been suggested. The only thing definite is the disappearance of the bone about the tooth and the atrophy of the alveolus. The remaining symptoms are of a secondary nature.

The infection present explains the

chronic inflammatory condition of the pocket. Spirochete and fusiform bacteria are found in the bottom of the pockets. Both together are recognized as destroyers of tissue. The working of the bacteria in the pockets explains the long duration of the disease.

Two pictures are typical in pyorrheal disease. Disappearance of the alveolus with a great deal of tartar present and little or no pus is one example. The other shows alveolar resorption with practically no tartar, a great amount of pus and loosening of the teeth.

The first form is more frequent, probably in 95% of the cases. It is termed *atrophy simplex,* and the second form is *atrophy complex.* In the course of treatment the pockets should be eliminated by cutting them down to the point of bony attachment about the teeth. Internal medication has as yet shown no results. In the first type, known as *Schmutz Pyorrhea* by Gottlieb, removal of all tartar is important. The author does not believe that the flap operation is of any great help. In fact, it may hasten the loss of teeth in the second group of such cases. The elimination of the pocket is the most helpful surgical aid.

OSTEOMYELITIS OF THE MANDIBLE

By Dr. Wassmund, Berlin, Germany

Osteomyelitis of the mandible is one of the most interesting conditions met with in the field of surgery, and in no other cases is the healing power of nature shown so wonderfully. If a part or half or even the entire mandible becomes necrotic and breaks down so that it is thrown out, a new mandible will form again. The mandible especially gives wonderful results, but the maxilla does not regenerate so well. Following osteomyelitis in the maxilla, loss of structure may still exist after healing. The most important thing is intelligent handling in the care of these cases and, above all, patience.

Some surgeons believe in resecting the part of the mandible involved, together with the necrotic portion, but as a result of the experience gained in 300 cases the author is of the opinion that the best results follow conservative handling. The only place for surgery in these cases is to relieve an acute condition, allowing the pus to discharge freely through the bone or soft tissues. This is accomplished by drilling an opening in the bone or by incision of the soft tissues.

It may sometimes be necessary to resort to surgery in order to facilitate the elimination of a sequestrum where the opening is insufficient to permit its being thrown off. The removal of the sequestrum should not be undertaken too soon. Where the continuity of the mandible is not endangered, as in the alveolar-process region, and the regeneration outline is unimportant, the sequestrum may be removed up to where it is clearly defined. Where, however, the continuity must be preserved, and where the facial outline is to be restored, as in the chin, lower border or angle, the sequestrum must be allowed to remain until it is completely loosened, as disclosed by the radiograph and probing. The sequestrum while in position acts as a splint for the newly forming bone, and under its protection regeneration takes place.

The sequestrum acts also as an activating agent to spur onward the new growth of bone. During this time the sequestrum may break down and be thrown out as small pieces with the pus. The larger piece remains behind and is finally thrown out or removed. It is extremely important that in all these cases the periosteum be retained, for this is the tissue which is responsible for the new growth of bone.

The author is opposed to the frequent dressing of osteomyelitis wounds, as healing is interfered with, because the dressing pushes aside the periosteum, thereby hindering regeneration.

The rule of conservative treatment may be laid aside in those instances where the rapid accumulation of pus with inadequate discharge endangers the patient's health through absorption of the toxins. Here surgery may be resorted to. In some instances the severe pain experienced by the pressure of the pent-up pus demands surgery.

It is incorrect practice to remove teeth in cases of osteomyelitis merely because they are loose, especially in the early stages. Many surgeons do extract these teeth, believing that they can thereby facilitate the discharge of pus. The teeth, however, are of great value in helping to support the distintegrating bone until this destructive process has ceased and new bone formed to such an extent that the jaw will retain or rather regain its original shape. Only the dead infected teeth which originally caused the disease are to be removed.

The author suggests wiring an arch to the mandibular teeth, a similar arch to the maxillary, and holding them together with rubber bands in the same manner as in the treatment of fractures. The loose teeth are thereby held in position and, as a single mass, tend to keep the jaw rigid in one piece. Spontaneous fracture is thereby avoided or delayed until regeneration has started and a fracture appliance is already in position. Even in cases where the teeth are completely devoid of bony retention but are merely held by granulation tissue, the arch binding them together holds these teeth in contact with the maxillary teeth and serves the valuable purpose of maintaining proper articulation. With the deposition of lime salts in the newly formed granulation tissue the mandible takes on the same form as it originally had. If the jaw had been left alone at the mercy of the muscles of mastication, it would have been drawn out of shape and a deformity would have appeared. This is seen in edentulous cases. In fact, when the general surgeon takes hold of an osteomyelitis case and handles it without due regard and respect for the articulation, a caricature of a mandible is the result. Proper conservative handling makes unnecessary disfiguring bone grafts, which are generally necessitated by purely surgical treatment instead of conservative, careful handling.

The fate of the teeth in osteomyelitis is uncertain. In the beginning they are loosened through pus and inflammation of the periosteum. Afterward they lose their entire bony retention, the bone being replaced by connective tissue. Gradually, however, with the formation of new bone a new alveolar structure and alveolus are regenerated and the tooth again becomes firm in its socket. This is well shown by radiographic

study. One would assume that the pulps are destroyed in osteomyelitis, but such is not always the case. In a large percentage of them the pulp survives necrosis. It is true that for several months they give no reaction, as the inflammation destroys their conductivity. This is shown in the numbness of the lip which is present in some cases, as in a mandibular injection. Generally in a week or a month after the disease has subsided, the pulp again reacts to heat or electric current. Even when there is no reaction, the death of the pulp is not definitely established; the nerves may have lost sensibility, but the blood-vessels still nourish the tooth. The nerve tissue is not essential to the integrity of the tooth, but the blood-vessels are. With this in mind, the hasty removal or opening of non-sensitive teeth should be avoided.

Another means of checking up on the vitality of the tooth following the cure of the disease is through the radiograph. If all is well, the new peridental membrane is seen and new bone is laid down about the tooth. If the pulp is dead, there will be a rarefied area about the apex which will not fill in normally. These dead teeth may now be removed or treated, but their removal is a far different matter from what it would have been if they had been extracted in the very beginning, when they were invaluable as a means of holding the mandible together and retaining articulation.

Conservative treatment presents a far better prognosis for the life of the tooth than surgery. Surgery with curettage and bone-cutting destroys the nerve and blood-vessel supply to the teeth.

In conclusion, the author again stresses the desirability of the treatment of osteomyelitis by an oral surgeon instead of the general surgeon. The former is better qualified to handle such conditions with greater dental intelligence and bring about a more successful return to the original articulation and function.

The discussion which followed brought out two interesting cases. In one case osteomyelitis of a young child which caused loss of the entire bone structure through necrosis had no effect on the buds of the permanent teeth, which subsequently erupted. In the second case the end of the treatment of osteomyelitis found the patient suffering from depression and melancholia, and the question was raised as to how frequently this became one of the unfortunate sequels of the disease. —*Deutsche Zahnärztliche Wochenschrift,* December 20, 1930.

SOME THOUGHTS ON THE DETECTION OF SYPHILIS

By Dr. P. E. Bousquet, Cannes, France

The author describes three cases in his practice wherein the diagnosis of syphilis was made after long delay because of the failure of typical symptoms of this disease. A seamstress, a farmer and a young English naval officer were the patients. In the first case there were little ulcers in the patient's mouth and one of fairly large size. The dentist had been treating these ulcers for two months, but the patient did not seem to improve. A

physician was then consulted, with no bettering of her condition. When seen by the writer, there were still no typical submaxillary swellings, but a blood test showed a positive Wassermann.

In the second case the patient was sent in for the extraction of a tooth, but as the ulceration appeared suspicious, a blood test was made, which was positive.

The third case, that of a young officer, was unusual in that he came in for treatment because of a large submaxillary swelling, which was quite painful. Examination of the mouth showed perfect teeth and no ulceration. A blood examination was instituted and a positive Wassermann resulted. A slight ulceration which had been almost overlooked was found beneath the tongue. Under proper treatment this disappeared, together with the swelling.

It is well to be always on guard in examining ulcerations of the mouth and unexplained swellings, as they may be manifestations of syphilis.—*La Revue Odontologique*, November, 1930.

[GOLD FOIL VS. INLAY]

Some of us, perhaps most of us, long ago discontinued the use of gold foil. Have we conscientiously analyzed our reasons, and are we satisfied with the results? Are there not many cases in which gold-foil operations would give our patients a better service than if some other filling material were used? In these cases, then, it should be used, and it can be used in successful competition with other materials. Prime states, in effect, that the reason we can do better work with inlays is that we have spent time and money and study in improving our inlay technic and have neglected our gold-foil technic, and, to use a Biblical phrase, "This ought ye to have done and not to leave the other undone." We believe this is a moderate statement of fact.

—RULE.

DENTAL ECONOMICS

The Dentist As a Business Man

By MADALINE KINTER, Ph.B., New York, N. Y.

Within the last year a large number of practicing dentists, instructors in dental schools and senior dental students were interviewed in order to discover the traits which make for success in the dental profession. The qualities outstanding in the character of this hypothetical person are the results of this trait analysis. One very important section of the original mass of material was classified under the heading *Knowledge of Business,* or *Business Ability,* consisting of such traits as good judgment, economy, industry, fairness, courage, expediency, self-consideration, punctuality, and the reservoir—business ability. It is the purpose of this article to give its readers an idea of the actions by which the successful dentist displays these traits.

Seventy-nine trait names in all were translated from the returns from these respondents. Yet good business judgment ranked seventh in frequency of mention, and economy eleventh.

Even before the first patient comes along there is opportunity for the dentist to increase or decrease his chances for success by his choice of location, office equipment and assistant. The dentist should fit the community he is to serve; *e. g.* a delicate effeminate person should not locate on a ball-park corner or in the Bowery. An office should be selected in a popular office building conveniently located as to transportation and suitably matched to the purse. Unless he is well known, he should establish at first a general practice, which will be difficult enough without attempting to specialize while he is unknown. Whatever equipment is bought should be selected carefully with a view to tastefulness and durability. Although fine office equipment is said to draw a high-class clientele, yet the young dentist first opening an office should not sink himself too deep into debt in order to have expensive equipment. If he does, he is apt to overcharge the first patient who happens along, just because he cannot forget the rent, supply bills and equipment payments which have to be met. This overcharge does not induce the patient to return. His assistant, if any, should be efficient.

Each step he takes involves judgment, and if that quality is lacking or weak, he should consult an older practitioner in order to make no false moves. He should have sufficient business ability to organize an office properly and install a bookkeeping and record system. Furthermore, he should be able, willing and eager to maintain such a system. He will find invaluable his knowledge of good modern business methods of

filling out and filing records. If he has never had any experience in the business world, he should acquire the necessary knowledge. It is good judgment to give an estimate and not go over it. The patient and the dentist should have a thorough understanding as to the cost of the work before it is begun. The method of payment, too, is something that needs to be settled before it is too late. Work should be paid for when completed, unless arrangements have been made beforehand for time-payments. The successful dentist learns to "bill without pushing." High-pressure sales methods are, of course, out of place, but good, plain, honest business methods are necessary.

Many modern professional men are working out each for himself a sliding scale of fees so that they have maximum and minimum charges which are absolute limits. They agree that it is unfair to "soak" the wealthy patients; yet it *is* fair to charge them more than the struggling office clerk who tends to neglect his teeth on account of his inability to pay what he thinks are outrageous prices. The fee should be based to some extent on the patient's income. Some patients think a dentist who gives credit does not do his best work; he waits to see if he gets paid. When a larger charge is made, more service should be given. This does not mean that a smaller fee produces less careful dentistry. It means, rather, that an extra polish or service in comfort should be offered to compensate the individual who pays more. Indeed, the main requisite of the ideal dentist is his determination and courage to do good dentistry or none at all, irrespective of price. The doctor who is fair will not overload a patient with high-priced dentistry above his ability to pay. Nor does he reduce his fees in order to hold patients, because careful work is not possible when the charge is reduced below a certain minimum.

If the professional man has a certain amount of money to spend, he should keep up the appearance of being prosperous to create a favorable impression on the public. If he looks "run-down at the heels," strangers will think that he is not able to earn his livelihood as a dentist and therefore must be a poor dentist, or that he is sloppy about his person and probably equally careless in his dental work. He should set aside a certain amount each month so that at the end of every year or two he can take up postgraduate work with the foremost specialists in various branches of the profession.

He should keep money in the bank and off the books. He should live economically and develop a business sense in making good investments. Improper investments because of the lack of business knowledge have ruined many a professional man, since he is not in the position of the business man who learns relative risks through his every-day associations.

A good dentist should be in the office during office hours and try to have work completed at the promised time. He should not keep patients waiting unless it is absolutely unavoidable. He should know how to plan his work to save as much time as possible, making his office a complete system. Every minute of the time should be utilized, yet he should not hurry with patients when they are in the chair. He should keep regular hours and tend to business, and busi-

ness only, during those hours. One who is lazy or afraid of work will never make a success of any profession. He must be interested in his work and apply his entire ability to it.

He must be content to wait for patients during the early years of his practice. Even when he has no appointments, he should be in his office.

One respondent in this study scornfully claimed that a professional man did not need to be a good business man. He could hire a bookkeeper. But this individual did not take into consideration the need for overseeing a bookkeeper's work to prevent embezzlement of funds and to insure his patients honest treatment. Nor did he consider that few dentists starting a practice are able to afford a bookkeeper. Any man or woman who makes a success in any field needs to be able to handle his own financial affairs. Just as a woman who manages a home should know how to direct and criticize her servants' work, so the professional man needs to know business methods in order to insure smooth running of his office in an efficient manner. Whether or not he actually sets down the figures is an unimportant item.

Many practicing dentists who were interviewed in this study spoke to the investigator of their lack of any training in business while in college. Even some of the senior students mentioned this lack in their preparation. It is to be expected that all colleges will soon follow the lead of the few who have already incorporated a course in dental economics in their curricula. Its value is limitless.

567 West 113th Street

The Place of Business In the Scheme of Dental Service*

By GEORGE WOOD CLAPP, D.D.S., New York, N. Y.

It is necessary to the author's inquiry as to whether or not dentistry is a profession, and nothing but a profession, that he should examine it for any indications that it may be also a business, in part at least.

In the two preceding articles we have seen that, speaking impersonally, a profession is a fund of scientific knowledge which makes possible the diagnosis of pathology, instruction leading to correction of causes and prescription leading to cure or repair; that the healing art executes the prescription, and that business provides the facilities for service by the profession and the art and the living for the professional man. Let us examine a little more in detail the place of business in the scheme of the professional man's service.

It would save a lot of time and trouble if we could agree on the following three ideas:

(1) Business is unlike either the profession or the art of dentistry and should never be con-

* This is the third of a series of related articles, the first of which appeared in the January issue of THE DENTAL DIGEST.

fused with either. It knows nothing about pathology or its cure and repair. Its task is to provide facilities, to reduce costs and to secure remuneration.

(2) Business might be likened to a vehicle which carries the professional man's knowledge and skill into the lives of those whom he serves, and brings back the remuneration upon which he is to live.

(3) The better the vehicle, the higher the percentage of prompt and successful deliveries. The professional man's knowledge and the artisan's skill will find their finest expression only when the business of practice is conducted as intelligently and effectively as the profession and the art should be.

Probably before you can agree to such statements you will want definitions as to what constitutes the intelligent and effective conduct of business. We can get them by looking briefly into history.

The Development of Commerce

Business, in the form of commerce, probably began when men perceived that it is cheaper to trade something you have for what somebody else has than to try to take the desired thing by force and perhaps die in the attempt. It began as manufacture when some one perceived that if he would make something the other fellow wanted, he could trade it for something he wanted.

It was natural that ancestors in whose lives trickery, thievery and murder were moral acts should have carried these habits into their trade. Somewhere in the long line of experience some one saw that such practices made commerce difficult. When business began to be even a little more honest, it went more easily and on a wider scope. With increasing honesty consumption and production have grown. The tremendous facilities of recent times require repeated sales to an enormous number of people, scattered over a wide area, at low cost. These can be effected not by trickery or misrepresentation, but only by integrity in product and policy. Concerns which have risen to world-wide achievement are at least reasonably honest and in some of them ethical principles and practice are abreast of the best thought of the times. Thus fine ethics and sound economics have been fathered by wisdom and mothered by experience.

The Development of Medicine

The story of the development of Medicine as a profession is similar in principle but different in detail. Born a foundling among soothsayers and medicine-men, it seems to have grown up without the sound economic background which business gradually developed. Until quite recent times physicians appear to have been protégés of the rich or of the churches or the schools. What money they had seems to have come to them in the form of gifts. They developed ethics but not economics. In the finest of examples of professional men today the ethics seems to be practically identical with the best ethics in the business world; as one goes down the scale in either profession or

business, the quality, quantity and effectiveness of the ethics decrease.

If you admit that experience ought to have developed in both these children—business and the professions—sound principles of ethics and economics, you will have to admit that these principles should be identical in both children. For ethics is merely the science of the square deal, and economics is its practice.

Two Unlike Attitudes—Both Ethical

You may have either of two quite unlike attitudes toward your fellow-man, both of them ethical. One will be detached and impersonal; it will do him no harm and perhaps little good. The other will show you that by the exercise of imagination, interest and ability you may benefit his condition and your own. And any activity which improves the welfare of another person is economic by definition. Ethics may be mental and verbal and stay merely ethics, and in both professions and business that is too often the case. The moment ethics does something, it merges into economics. If the thing it does is constructive, the economics is good; if it is destructive, the economics is bad. And many a dentist whose mental and verbal ethics are sound is a very poor economist.

So you see that while we may differ in the conception of what constitutes the square deal in any given case and how to make the principle work, there must be an identical theory in all our minds and hearts, whether we are professional men or in business. That theory for both ethics and economics has never been better phrased than in the words, "Whatsoever ye would that men should do unto you, do ye even so unto them."

The Reflection from Every Act

There is a reflection from every economic act. Something of what I do goes to the other fellow, but something comes back to me. And what comes back is so important that it will often govern the choice of the acts I elect and settle how they shall be performed.

In great emergencies I may perhaps serve my fellow-man best by spending all my substance, and even life, in one great act. But ordinarily the sum-total of my contribution will be greater if I serve in such way that my knowledge, skill and power steadily increase and are long continued. My total service will be less if I serve in such way that my knowledge and skill and power decrease.

And so, whatever my vocation, perhaps the best part of my ethics finally comes back to me. It is to be neither self*ish* nor self*less*. I am to build myself up by building up others, and that building up of myself may be in any form or to any extent that increases my power for constructive service.

A Practical Application of Ethics

You would do well to be slow to admit all that I have set down here, because there are some implications you may not have thought of that are likely to prove embarrassing to some of the statements you make. Suppose that you let me apply them to myself as a dentist and to a patient.

Assume that I am a "scrupulous,

competent" dentist*, that I am well grounded in the science of my profession, regard myself as a servant of health, and that I instruct and serve my patients as such. Also, I am a good artisan.

A—, a prospective patient, presents for examination. I find conditions which may be grouped under three headings, as follows:

(1) Conditions in the soft tissues which, with help, are capable of cure in the sense in which the word was used in the last letter.
(2) Habits of life which might account for those conditions.
(3) Tooth destruction and loss incapable of self-repair.

When A— is informed of the findings and what they mean, he asks the cost of the different items of service and, when my fees are given, instructs me to proceed with part of the work.

Now let us separate the ethical, economical and business elements in this transaction, dismissing the professional and technical for this occasion with the assumption that the knowledge and skill are adequately, intelligently and honestly exercised. You should watch me very closely in this analysis and admit only what you have to, or I may have you cornered before you know it.

The ethical elements from A—'s side are as follows:

(1) He needs service which I have the knowledge, skill and facilities to render.
(2) I am not responsible for the causes which necessitated the service. They lie in errors in his life.
(3) He is not poor and does not expect nor desire service at my expense or any charity. He desires to buy only what he can afford, expects to pay for it and is entitled to receive the kind of service for which he pays. He is representative of the thousands of patients whom I hope to serve during my professional career. Charity is therefore no factor in this case.

The ethical considerations from my side are that I have diagnosed some pathology, prescribed certain measures, described the benefits which should result from those measures and given a fee for the service. The fee has been accepted and I am bound to carry out just what I prescribed in such way as to bring, so far as lies in my power, the benefits I have pictured.

A Practical Illustration of Economics

Here, it seems to me, the ethical factors, that is, the theoretical factors, come to an end. Now we come to the economic factors, that is, to the beginning of the working out of the ethical factors.

The service, as planned, will contribute to A—'s comfort, health, appearance and efficiency. The remuneration will contribute to many elements in my material well-being which are important to every patient I serve. The transaction is therefore economic in character.

By a sort of mutual consent fees have been established in my office which measure the price for my services at which the community is willing to keep me busy. Throughout the year

* Classification by Bland N. Pippin, D.D.S.

it takes 40% of my fees to keep the office and service up to the standards my patients desire. Any reduction in this expenditure is followed by a lessening of facilities or a lowering of quality of service.

Costs exceeding 40% in any case require that I lower the quality of service or lessen my earning power. In occasional cases I can and do hold the quality of service up and take the reduced remuneration, but I could not do that in all cases because my earnings now are only enough for comfortable living, freedom from worry and reasonable provision for old age.*

It is economically necessary, therefore, to A—'s welfare that 40% of the fee which I quoted him shall pay all the office costs of his work, not including my remuneration, and that the remaining 60% shall enable me to order my personal affairs well enough to be free from anxiety about them, so that when I come to serve A—, I shall give him my unhurried and unworried attention and the best of my knowledge and skill. Anything less than this will be an economic injury to A—, and he would not knowingly accept it.

A Practical Illustration of the Business of Practice

And now, because we are leaving professional and technical elements out of this discussion, we come to some very simple business factors.

If I am to know in advance how to set a fee so that 40% of it will pay the office cost for A—'s service, I must have learned by cost-accounting methods what each form of service costs the office.

If the costs of high-grade service are to be kept within 40% of my fees, materials and appliances purchased must be of known quality and efficiency.

The human elements in the office organization must function continuously and efficiently.

All these elements which have just been mentioned—cost accounting, intelligent purchasing and human efficiency—are business elements, having no special connection with the art or profession of dentistry. They are in use in every successful business organization, and they can be applied to the making and selling of any form of merchandise or service.

If you admit what I have set down here, what becomes of your statement that the practice of dentistry is in no sense a business, but that it is always and only a profession, and that where it bears a resemblance to business it is something higher and finer than a business can be?

What is finer than some of the things that sound business principles make possible?

(To be continued)

* That I could advance my fees should not enter here. There must be one fixed factor as a starting-point in every problem. That my fees are well suited to the ability of my patients to pay, and that on a sufficient quantity of output they are comfortably remunerative, indicate that they should be the fixed factor in this problem.

PRACTICAL HINTS

THIS DEPARTMENT IS NOW BEING CONDUCTED FROM THE OFFICE OF THE DENTAL DIGEST. TO AVOID UNNECESSARY DELAYS, HINTS, QUESTIONS AND ANSWERS SHOULD BE ADDRESSED TO EDITOR PRACTICAL HINTS, THE DENTAL DIGEST, 220 WEST 42D STREET, NEW YORK, N. Y.

NOTE—Mention of proprietary articles by name in the text pages of THE DENTAL DIGEST is contrary to the policy of the magazine. Contributions containing names of proprietary articles will be altered in accordance with this rule.

Reply to W. E. C.—Referring to the question by W. E. C. in the November issue of THE DENTAL DIGEST, I feel that the sensation that the lady complains of is either a neuralgia due to some systemic disturbance or vicarious bleeding observed during the period of menstruation. The engorgement of the vessels and the fact that at stated periods there is cessation of bleeding, gums resuming normal appearance and termination of pain in teeth are an added indication of the probable diagnosis of vicarious menstruation.

I believe that if the patient is questioned, it will be found that the pain and engorgement of the vessels takes place between the periods of menstrual flow, and that when the menses are established, there is no pain and the gums take on a normal texture.

Aside from being placed in the hands of a conscientious physician, I believe the patient should undergo a complete blood examination, in order to get a comprehensive blood picture, and a urinalysis and gynecological examination. This of course is only a supposition on my part as to the probable diagnosis of the case, but careful examination of the patient plus laboratory findings combined with dental treatment should determine the cause.

The reason I mention a gynecological examination is in order to determine the size of uterus, because an infantile uterus is often the cause of vicarious menstruation, presenting symptoms similar to that outlined above.

GEO. J. BLEECHER, D.D.S.

Reply to W. E. C.—I am much interested in the case presented by W. E. C. in the November issue of THE DENTAL DIGEST.

For the past several years I have treated a case presenting quite the same history and condition that the doctor describes, only my patient does not have any flow of blood, but rather serum.

I find that my patient gets the greatest relief from the use of unfiltered ultra-violet rays on top of an application of 50% silver nitrate over the affected area. Recently I have added the internal administration of tin, which seems to be adding to the rest interval between attacks. Until

recently this patient could not wear her dentures. She now wears the upper comfortably and can use the lower for most of the day.

I regret that I cannot give a rational explanation of the etiology of these cases, but I believe that we are dealing with a fungoid condition. Perhaps the infestation is with food or otherwise carried to the mouth, and it finds lodgment on some slightly denuded surface where a rapidly diffusible local irritant is developed, as a toxic excretion or perhaps the migration of the fungus itself. That the process is not highly destructive is self-evident from these cases, and that the process is not one of a known infecting organism is shown by a lack of immunity.

In the treatment I have used I attempt to develop a resistant scar surface, in the hope of raising the local resistance. The tin therapy is experimental.

WILLIAM A. LURIE, M.D.

Reply to H. R. J.—Replying to H. R. J. in the December issue of THE DENTAL DIGEST with reference to lack of anesthesia in mandibular injection, I wish to say that in testing for complete anesthesia in mandibular injections it is necessary to test the buccal mucous membrane between the bicuspids or, better still, between the cuspid and the first bicuspid. No pain in the region of the molars indicates only one thing, that is, that the long buccal nerve has been anesthetized.

If the mandibular sulcus has been reached, then the mental branch of the inferior dental nerve will certainly have been anesthetized. It therefore follows that there should be profound loss of sensation in the first bicuspid and cuspid area, and if it is not present, then we have not directed the course of the needle in the proper direction.

In many cases, however, it is necessary to wait twenty minutes to allow for gradual diffusion of the anesthetic. This is necessary when the operator believes that the solution was deposited a reasonable distance from the mandibular sulcus.

GEO. J. BLEECHER, D.D.S.

Editor, Practical Hints:

A few days ago a woman presented with full upper and lower dentures which had been constructed some months previous. She complained of the lower denture being very uncomfortable after being in the mouth an hour or so, and that a tremendous "suction" develops—in fact, so much as to cause pain.

The ridge is normal, and thirteen dentures of various materials, including aluminum, have been constructed without relief.

J. C. S.

ANSWER.—In certain cases, especially in the mandible, the degree of resorption brings the nerve endings close to the surface with consequent discomfort from the denture.

Also, the wearing of a denture will cause a certain degree of hyperemia, and in this patient it may be more pronounced. We know nothing that can be done, but we shall be glad to publish your letter in the hope that some of our readers may be able to be of assistance.

Editor, Practical Hints:

The patient is a married woman about thirty years old. She complains of soreness of all teeth on the right side and pain, but the pain is more acute in the angle of the jaw just anterior to the ear. There is also a soreness here, and when you press on her chin, it causes a sharp pain in this region. The teeth are all vital and in good condition. The upper first molar has a crown on it and so has the cuspid. The two bicuspids are bridged to these crowns. The wisdom teeth have been extracted.

Do you think it possible that this pain could be due to inflammation of the nerve? If so, does injection of alcohol give relief? Do most men who specialize in exodontia do this?

C. K. S.

Answer.—The first thing to do would be to check carefully the occlusion, not only in central occlusion but also during the various movements of the jaw. Traumatic occlusion would account for the soreness of the teeth and the pain in the temporomandibular joint. It is quite possible that the bridge is causing the trouble.

If such is the case, a mandibular injection of alcohol would be of little use. All exodontists are by no means proficient in giving these injections, and care should be exercised in the choice of the operator.

Editor, Practical Hints:

I should like your opinion as to diagnosis and treatment of the following case:

The patient is a woman, aged 30, whose left lower first molar was extracted by another dentist two years ago, and a so-called *dry socket* developed. I do not know the condition of the tooth before extraction, but after prolonged treatment, including two curettements, the pain finally subsided.

A bridge was made from the second molar to the first bicuspid. After a few months the pain returned with swelling. A surgeon had the bridge removed and the second molar extracted. He then, under a general anesthesia, opened up and chiseled a large amount of bone away. There never has been any pus present, but there was much softened bone at this time. The wound healed and the patient was free from pain for two months, when she had a return of the swelling and very severe pain. Some surgeon repeated the operation, only more radically, the diagnosis being osteomyelitis.

The patient was free from pain until a short time ago. The same surgeon showed me full head pictures, which showed nothing. He asked me to open up with bone drills, which I did under conduction, with consequent relief to the patient. We are keeping the wound open and irrigating daily. The patient has always been free from pain while the wound was open. Her general health is good.

The surgeon of course still has charge of the case. I only opened up as he asked. He considers making an opening to the lower border of the jaw for irrigation. There is a large thickening of the jaw.

R. L. B.

Answer.—There has probably developed an osteomyelitis that developed from the original dry socket or osteitis. This might possibly have been caused by the curettage.

If it is a case of osteomyelitis, then the treatment that has been followed does not agree with the accepted procedures in such cases. Drainage should be established and maintained, but any curettage or scraping of the bone should be avoided, since it tends to spread the infection. No attempt should be made to remove the sequestrum until it is entirely free. Irrigation through the lower border of the jaw is often necessary.

Editor, Practical Hints:

In more than 60% of my cases where it was necessary to extirpate the pulp I found a very discouraging process when I attempted to use arsenical fibers for this operation.

Often I have to make three and four applications and even then do not have the pulp completely killed. Sometimes after applying the arsenic fibers the second time the patient undergoes quite a bit of pain.

I always take care not to apply to an inflamed nerve, etc., and I wonder if the fault is on my part or nature's.

Can you suggest any other medicament to use in killing the pulp?

J. S. B.

ANSWER.—A great many men have given up the use of arsenic for the removal of pulps and are doing this under local anesthesia. Even this is not wholly satisfactory, since under certain conditions it is impossible to secure a perfect anesthesia, and often shreds of nerve are left that cause trouble at a later date.

On the whole, however, novocain is to be preferred to arsenic.

Editor, Practical Hints:

What is the cause of teeth having a groove in them just above the enamel? The gums recede just a little. The mouth is clean and the teeth are clean. The patient does not seesaw them with a brush, and there is no discoloration. There is some sensitivity—not so much. The patient is 30 years of age.

H. W. K.

ANSWER.—The case you cite is probably one of erosion. Aside from the mechanical causes such as improper brushing and the use of gritty pastes, the following have been put forth as causes of this condition:

(1) Diseases of suboxidation or faulty metabolism, resulting in the excessive formation and elimination from the labial and buccal mucous glands of (*a*) acid sodium phosphate or (*b*) acid calcium phosphate, or both —(Edward C. Kirk).

(2) Excess of lactic acid in the saliva, producing not the typical form, but a general erosion of all the teeth of the denture—(Kirk).

(3) Excess of acid salts excreted from the blood by the salivary or mucous glands or present in the saliva from fermentation processes—(W. D. Miller).

(4) Excess of alkalin salts or bases present in the saliva—(John A. Marshall).

(5) Solution of the organic matrix by bacterial enzymes and later dissolution of the inorganic material—(Preiswerk).

(6) Excessive use of extraneous acids, such as lemon juice, vinegar, grapefruit and grapes—(Miller, S. H. Guilford, Tomes).

(7) Acidity from a local acidosis in the peridental tissues as a result of traumatic occlusion—(Stillman and McCall).

Consequently you can see that it is a difficult thing to get at the cause in any given case, but it is generally due to the action of acid.

Editor, Practical Hints:

I should appreciate some advice on a case. The patient is 70 years old. He is in extra good health and has all his teeth except three. He has no caries, and his gums are in good condition, but his teeth are worn down to his gums and are very sensitive to cold. He chews tobacco. He says his teeth bother him very much.

Should I extract them all, or what would be the best thing to do at his age?

Would nitrate of silver do any good? I dislike to extract them because of his age, but he says he must get relief in some way.

B. F. W.

Answer.—It would be inadvisable to extract this patient's teeth at his age, and he would probably find it very difficult to use dentures with any degree of satisfaction.

It would be well to try silver nitrate, and relief may be secured by repeated treatments. This failing, either capping may be resorted to or the pulps removed. It may be possible that not all the teeth are sensitive, in which case it will be very much simpler.

Editor, Practical Hints:

Can you tell me what would cause a burning of the gums six months after extraction in a patient 70 years old? There was a well-advanced case of pyorrhea before extraction. It seems to be confined to the anterior region, and there seems to be a nice ridge. The patient is not wearing any teeth.

R. H. B.

Answer.—The burning sensation is probably due to infection. In certain cases of extraction for pyorrhea, if the process is not trimmed back beyond the necrotic area, the pathological condition continues, usually accompanied by progressive resorption. If dentures were made for this patient, it would probably be found that he could not wear them on account of tenderness. An x-ray will usually reveal a jagged alveolar process with varying areas of density.

DIETETICS and HEALTH

Influenza and Pneumonia

By GEORGE WOOD CLAPP, D.D.S., New York, N. Y.

Author's Note.—There is nothing new nor original in this article. But when influenza is epidemic in Europe and active here, with an unprecedented percentage of pneumonia cases following, it is worth while to have a few fundamentals recalled to our minds.

It is very possible that nature has developed in us powers of successfully resisting many enemies within the body and without, and that if we lived as nature intended, few indeed would be the infections which could successfully attack us.

Some of our forefathers have lived wisely in a physical sense, and they have bequeathed to us high resistance. This needs only to be cared for to be effective in ways very important to our welfare.

But most of us do not live wisely and we thereby lower resistance. We may live joyfully or rapidly or comfortably, but that is not necessarily what nature calls wisely.

There are some rough and ready ways of measuring the extent to which those about us have lived wisely in a physical sense. When some epidemic such as is now raging in Europe and, because of the ease of intercommunication between Europe and America, may rage here, attacks a community, it picks out with unfailing accuracy those whose methods of life, however moral or intellectual they have been, have not been physically wise and overwhelms them probably about in proportion to the weakening of their defenses.

Doubtless everybody is infected, but some people will not even know it. They will respond to inquiries by saying, "No, I didn't get it. All the rest of the family had it, but I escaped." It is unthinkable that they escaped infection, but the infecting organisms ran up against just what they ought to find everywhere—a wall of resistance on which they could make no impression. In those cases it was the organisms who were lucky to get off with their lives.

At the other extreme of those who are attacked and live will be those who are very ill, recover slowly and perhaps may never be the same again. These are they whose resistance the invading organisms found so low that the body's reserves were barely able to repel the attack.

There are doubtless a few people so physically weak or defective through heredity that strong resistance is impossible to them. But a few years of experience with people who can be persuaded to live wisely leads one to believe that the percentage of such people is very small, and that for most

of us much better resistance than we show is easily possible. It is the purpose of this article to suggest a few things which may help us to develop such resistance, not only against influenza but against all the infections.

Some Elements of Good Resistance

The habits of life which most directly affect the high resistance with which nature endows us may be divided into four groups: (1) nutrition, (2) oxidation, (3) exercise and rest, (4) elimination.

Our forefathers needed other classifications—protection from heat and cold, from violence and exposure and from epidemics such as tuberculosis and typhoid. But we are better housed and vaccinated than they were, and few of those to whose hands this will come will be in great danger from violence or exposure.

Let us therefore take up, in the simplest possible manner, the classifications that apply to us.

Nutrition and Resistance

During the last few years more conscious attention has been given to nutrition than at any other time within memory. Some people think that wisely ordered nutrition is the answer to all physical problems, which it is not, and that if they eat what they ought when they ought as they ought, all will be well with them. That is to expect entirely too much of nutrition and to invite disappointment or disaster.

Nothing is plainer now than that there may be an abundance of pleasure-giving food without sufficient support for the physiological activities that underlie resistance. One very serious error is to confuse energy-giving foods with health-supporting foods. At lunch the other day the stool beside the writer was occupied by a policeman. His lunch consisted of a three-layer piece of cake with thick interlayers and top layer of chocolate and a cup of coffee. This lunch had plenty of heat for the cold day and his outside job and plenty of quick energy, but it was seriously or wholly lacking in mineral salts. And students of health are being driven more and more back on the alkalin mineral reserve of the body as one of its most important bulwarks of defense against fatigue, exposure and infection.

Emergencies like epidemics call to our attention the importance of selecting our foods by intelligence instead of by appetite. The body needs calcium-phosphorus, potassium, magnesium, sodium and iron in liberal quantities, constantly renewed. They come to us almost entirely from the fruits and vegetables, not from meat or eggs or fish or foods which man has refined by removing these salts, the vitamins and the cellulose. Some very recent discoveries seem to show that some of the most delicate but most important activities of these salts are destroyed by cooking. Certainly those who get them liberally from fresh fruits and vegetables show by their condition and resistance and recovery power that they have benefited wonderfully. Let us therefore during these months that are dangerous anyway, and in the face of a possible invasion of influenza, study our quantities of these salts and the sources from which we get them.

Cellulose and Intestinal Health

Another element of food which will get much more attention in the future is cellulose, which is the fibrous or fleshy parts of fruits and vegetables, but which is almost entirely lacking in meat and all "refined" foods. If you are still able to eat cellulose and not suffer, thank God for it and eat about two pounds a day. Close observation of a few cases of mucous colitis, spastic colons, small intestines or stomachs will give cellulose a value in your eyes that it never had before. Such people cannot eat it, and how they need it! It is a wonderful scrubbing-brush and carries some mineral salts and vitamins. When we teach people the habit of eating cellulose before they become spastic, we shall have done something for them.

What Vitamins Do

If you had an electric battery and a lamp, it might be impossible for you to light the lamp because you couldn't connect the battery with it.

In the same way you may have in the food the mineral salts that the body needs (though few people have) and yet the body may be starving for those salts because it cannot take those salts from the food and assimilate them. In such case the vitamins do just what you would do if you threw a switch and connected the lamp and battery: they enable the body to assimilate the mineral salts.

Do not be worried about the kinds of vitamins or just what each of them does, so long as you get them all and more than enough of each. Man is putting them into different things now and thinks he is pretty smart, but some day we shall find that nature does it better, all points of view considered, than we have learned to, and that we may well depend on her. We can get them in fresh fruits and thin green-leaved vegetables grown outdoors, in butter and in a few cooked vegetables, but not in meat, fish or refined foods.

Oxidation and Health

Some of us in the North are overlooking, in the winter months, the fact that oxidation is just as important as nutrition, and that we get it imperfectly and insufficiently behind the steering wheel of an automobile or on the back seat or in a smoking room playing cards or in public places such as a theater.

Five minutes of a walk whose briskness is suited to our age, weight, blood-pressure and general activity is equal to or better than twenty-five minutes in an open automobile.

Many who eat wisely do not oxidize wisely. Dentists often say that they are on their feet all day and do not wish to walk home, when the distance is only a mile or two. They would do well to learn to use an operating stool during the day and do some walking out of doors.

Exercise and Rest

Some of my dentist friends have laughable notions of exercise. They leave their offices at four or four-thirty, go to a club, play bridge or poker till dinnertime, ride home, have dinner, play cards or go to the theater and think that that should suffice until Sunday, when they take a short walk in the pleasant part of the afternoon.

The exercise of holding the cards and protecting their money may have tired them, but it does not get out of the body the poisons which unavoidably accumulate as the result of the physiological activities and work or play.

Let us walk for health until golf gets us to walk for fun.

Elimination and Health

Elimination means the throwing off by the body of the waste resulting from physiological activities and from work and play. It takes place through lungs, skin, kidneys and intestines. It is normally dependent on the kind and quantity of food and the kind and quantity of exercise, but is greatly affected by the damage done to the intestinal tract by years of injudicious eating.

The two points to be made here are that constipation, which is a partial failure of elimination, is the forerunner of chronic disease and lowered resistance, and that constipation cannot be cured by drugs—they eventually make it worse. If we suffer from it, as probably 90% of Americans do, let us try to get back to food and exercise habits that will correct it.

Oral Sanitation

Now more than ever before, let us impress upon patients the importance of keeping the mouth clean. If they are gotten into the office every thirty days for the next four months and given a thorough prophylaxis each time, it will be one of the best protective measures that can be offered. If we could keep all mouths clean, we might go a long way toward stamping out this epidemic that looms.

If You Are Taken Ill

If you have the slightest suspicion that it may be influenza, get to bed as quickly as possible. Don't be big and bold and strong and "fight it out on your feet." That increased the mortality 68% in the first epidemic as compared with those who were gotten into bed very quickly.

Clear the intestinal tract, from below with enemas, from above with some suitable laxative. Get a hot bath each morning and night, and avoid any chill following it. Limit the food to the juice of good oranges, grapefruit and lemons, all of it you wish.

If pneumonia supervenes, have your physician find out about diathermia and the almost unbelievably favorable results they are having with it at St. Elizabeth's Hospital, Washington, D. C.

Here's hoping we may all escape! Most of us might if we lived right.

DENTAL SECRETARIES and ASSISTANTS

Secretaries' Questionnaire

All communications should be addressed to Elsie Pierce, care of THE DENTAL DIGEST, 220 West 42d Street, New York, N. Y.

NOTE—HAVE YOU A BETTER WAY? HAVE YOU A TIME-SAVING SHORT-CUT? DO YOU KNOW A "STUNT" THAT LIGHTENS THE WORK OR MAKES FOR GREATER EFFICIENCY IN THE OFFICE? IF SO, WRITE TO ELSIE PIERCE. YOU MAY HELP MANY GIRLS WHO ARE BEGINNERS—AND YOU KNOW HOW YOU NEEDED HELP DURING YOUR FIRST FEW MONTHS IN A DENTAL OFFICE. PERHAPS YOU NEED HELP NOW. WRITE TO ELSIE PIERCE—SHE WILL HELP YOU.

Dear Miss Pierce:

Please let me know if there is a dental assistants' society in Reading, Pa. I have been employed as a dental assistant for some time and should like very much to become a member of a society.

G. R.

ANSWER.—We believe that there is a society in Reading. Write to Miss Charity Gorrell, 516 Greenwich St., Reading, Pa., for definite information.

If this society is no longer in existence, you might affiliate with the Philadelphia Society, which is functioning very successfully. Write to Mrs. Helen Fitting, President, 533 Brinton St., Germantown, Pa.

Dear Miss Pierce:

Bur sterilization is one of the dental assistant's biggest problems; at least, it was to me until I worked out a system whereby all the burs are kept in a sterilizing solution for at least twelve hours before they are used.

I bought two salve jars at the drug store, one about 2 in. high, the other 2½ in. high, and filled them half full with a sterilizing solution. I divided the burs in two parts, with some of each kind in each group. The short ones I placed in the small jar and the long ones in the large. The clean ones I keep in glass compartments in our cabinet.

As the Doctor uses certain burs he lays them on the bracket table, and after each operation I place the ones I find thereon in the jars with those that are in the process of sterilization.

Each morning I take the burs that were in the cabinet the day before and exchange them for the sterile ones from the jars. In this way they are not rusted from moisture, as is the case when they are placed in the sterilizer. This system has been in effect for eight out of the ten months that I have held

my position and has proved very satisfactory.

D. W., Ohio

We appreciate this suggestion and know it will help our readers.

Dear Miss Pierce:

When the impression trays are returned from the laboratory they are stained black, are rusty and have a hard substance on them, so that it is impossible to clean them. Please give me a method for cleaning the trays and to keep them from staining after they have been cleaned.

An Assistant

Answer.—Place the trays in water to which has been added soap powder, and boil. Then use a stiff brush-wheel and pumice, and polish on the lathe. If the hard substance does not come off in the boiling, use a sharp scraper and scrape off.

I know of no method that will keep trays from staining every time they are used. They will have to be cleaned each time, but I would suggest that after being cleaned and well dried they be placed in a dry cabinet, or any other container, away from dust and acid fumes.

Dear Miss Pierce:

Please send me all the information that you can on the duties of a dental assistant, her personality, voice, etc.

S. W. M.

Answer.—You have given a large order, one that would fill a book. I suggest that you get the back numbers of The Dental Digest for the past four or five years and carefully read this department. No doubt you can get these magazines from the library of your employer's dental society.

Each office has its own routine; each dentist has his own methods. Learn what these are in your particular office and keep your mind on your work. Read all the articles on the work of dental assistants that you can find in the dental journals, and join the dental assistants' society in your state, if there is one. Take advantage of all the offers of the dental depots in various types of instruction. Above all, be observant and follow the instructions of your employer.

A dental assistant's personality should be agreeable, sympathetic but not "gushy," kindly, tactful, courteous, dignified, understanding. She should guard her speech and never tell tales nor gossip with patients or outsiders. Her voice should always be modulated and pleasing, and no matter what happens in the office she should be poised and use good judgment. She becomes a professional individual and should be prepared to act the part.

To be properly educated as a dental assistant takes time and study. This, like all other callings, requires a continual expansion of your knowledge.

Dear Miss Pierce:

I have been on a bonus basis for three months now and as yet have not received a bonus of any good size. I understand that if I do not make the said quota, I am to make up the difference the following month before I receive a bonus. As I have been in this profession only a short time, I do not know whether that is the way a bonus is paid in all offices. I have been suc-

cessful in collection letters and 'phone calls.

"IN DOUBT"

ANSWER.—First, the "bonus plan" is in effect only in certain offices, not in all of them, and is purely a personal matter by which the employer believes that greater financial results can be attained because of the encouragement it will afford the assistant to endeavor to increase the office revenue.

Secondly, the amount that you receive must necessarily depend on the percentage upon which your bonus is based. If the receipts are large, you will no doubt get a large bonus, and if small, it will drop accordingly.

Thirdly, the bonus system varies in every office that has this type of remuneration, so that it is quite impossible to give you any set rule to go by.

Dear Miss Pierce:

Can you tell me whether there is a night course for assistants in dental hygiene?

W. S. E., N. J.

ANSWER.—I presume you mean a course for the training of young women to become licensed dental hygienists. We know of no school that gives evening courses.

If you desire supplementary information about schools for dental hygienists, we suggest that you write to the School of Dental Hygiene, Columbia University, New York.

In reply to a communication from L. J. C., of New Jersey, we regret that we cannot give free publicity to commercial enterprises in this department. There is a special section of THE DENTAL DIGEST devoted to such advertising. We appreciate your interest and hope you will send us some other information that we can use here.

Educational and Efficiency Society for Dental Assistants, First District, New York, Inc.

The Educational and Efficiency Society for Dental Assistants, First District, New York, will hold a regular meeting at the Hotel Pennsylvania, 33rd St. and Seventh Ave., New York, on Tuesday evening, March 10, 1931, at 7:45 P. M. Dr. Alfred Walker, President of the Dental Society of the State of New York, will be the guest of honor and principal speaker. Preceding the meeting, a dinner will be held at the Cottage, 132 West 32nd St., New York.

On January 30th a class on x-ray technic, with Dr. L. A. Greenfield as instructor, was held. The class on bacteriology, sterilization and pathology is now in session, meeting each Friday evening at the Columbia University Dental School, 168th St. and Broadway, New York. The instructors are Drs. Bartels and Schroff, and the subjects include the structure and culture of micro-organisms, sterilization and germicides, the action of bacteria on body and defense reactions, blood

count, smears. All members of the Society are eligible to join this study group.

Two successful clinics were presented by the Clinic Club during February, the first on February 17th before the Westchester Dental Society, the second on February 27th before the Kings County Dental Society, the subject being *Sterilization*. A clinic will be presented at the Allied Dental Council, 425 Lafayette St., New York, before a meeting of the Eastern Dental Society, on Thursday, March 5th. The next regular meeting of the Clinic Club will take place at the office of Dr. Henry Fowler, 174 West 96th St., New York, on March 16th at 7:45 P. M., and the subject will be *Proper Parliamentary Procedure*. The Club meets on the third Monday evening of each month, October to May, inclusive, to discuss the work of the dental assistant and to seek more efficient methods of office procedure within the scope of her duties. All members of the Society are welcome and are urged to lend their support and to share in the educational advantages afforded by the Club. For further information concerning the classes and clinics, address: Mary A. O'Connor, c/o Dr. E. Reiner, Cliffside, N. J.

The Society meets on the second Tuesday evening of each month, October to May, inclusive, at the Hotel Pennsylvania, New York. Membership is open to dental assistants employed in ethical dental offices. A cordial invitation to attend the meetings is extended to the members of the dental profession and to their assistants.

Montreal Dental Assistants Association

The Montreal Dental Assistants Association held its regular monthly meeting and first study class on January 19, 1931, at the office of Dr. R. Cleveland, President of the Montreal Dental Club. In the absence of the president Miss E. Stubina, Vice-President, presided.

Miss E. Currie demonstrated for a large audience of dental assistants how to take care of impression trays. Her method was simple, and her demonstration very much enjoyed by all present.

Colorado Dental Assistants Association

The Colorado Dental Assistants Association meets the first Tuesday of every month at 219 Republic Building, Denver, Colorado.

The Clinic Committee has started a class in dental anatomy, which is being given two nights a week for four months by Dr. A. Kahan, of the

Denver Dental College. The class has proved very beneficial and interesting.

The meeting of January 6th was devoted to the election of officers and old business. The officers for the coming year are: President, Alice Olsen; First Vice-President, Verna Robertson; Second Vice-President, Lucile Carson; Secretary, Ruth Taylor; Treasurer, Morine Baker.

On January 9th the Colorado Dental Assistants Association held its mid-winter clinic at the Colorado General Hospital. The clinics met with very favorable comment from the dental profession. A dinner and party were held at the Junior League Shop on the same evening.

On February 3, 1931, the installation of officers was held.

All communications should be sent to Miss Ruth Taylor, 1110 Republic Building, Denver, Colorado.

The Dental Assistant*

By ROSEMARIE CORNELIS, New York, N. Y.

There has been considerable discussion in recent years about the relationship of dentistry to general medicine, and of course this brings about the discussion of the adaptability of the trained assistant for the dentist. There is no question that during the past ten or twelve years the dentist's assistant has made herself invaluable to the dentist and has created a demand for a trained mind at the chair as well as at the desk, so that the young woman entering the field today and thinking that there is nothing to it is considerably taken back to find that she is expected to take care of the office transactions from the development of the x-ray picture to the collection of the fee, and that she is expected to be a gracious hostess, a good housekeeper, a good laboratory man, a good x-ray technician and, lastly, and most important of all—because without it no office can operate—a good collector of money.

It is rare to call a doctor's office on the 'phone and not get a prompt reply from a pleasant, well-trained voice able to give intelligent information about any matter pertaining to the doctor or his practice. There is no place in a modern practice for the untrained assistant, except where a dentist is ready and willing to be a teacher or has definite ideas of the methods he intends to use, which he must be willing to explain to the beginner in every detail so that she will be capable of meeting all situations in his practice. A busy man cannot do this and will find the beginner more a hindrance than a help.

The registered nurse has followed set rules and regulations with regard to her work for a period of three years, living under the same roof with a group of women in the same field of endeavor

* Read before the Educational and Efficiency Society for Dental Assistants, First District, New York, Inc., October 14, 1930.

and going from the classroom to the ward, there to practice what she has learned in the classroom. The dental assistant gets her training by going through the practical routine of office work, and if she applies herself and is interested in it, and if she is fortunate enough to live in or near a large city, she can attend classes and clinics given by the societies for dental assistants and thereby perfect herself in the various phases of her work. This cannot be done overnight, and it is only after many miscast inlays, x-rays that have been overexposed and underdeveloped, months that the books will not balance and dozens of awkward situations that I need not mention that the assistant is perfected in her work.

Many girls say to me: "I should like to work in a dentist's office. What are the requirements?" I say to each of them: "First of all, you must be on duty every day, from the time that the office opens until the last patient leaves. No excuses are in order. The dentist cannot work alone. You must keep accurate accounts of all work done for patients, care for broken appointments and send out bills, using the intuition that women are supposed to have to judge your patients to find out whether they are in the habit of paying their bills and if they are ready to pay this particular one. You must take x-ray pictures and manage to develop these films and cast inlays between sittings, always keeping an eye on the indicator to see if the doctor needs you at the chair. You will give your evenings to attending classes in order to learn the proper methods of sterilization, bookkeeping, laboratory work, office management and care of equipment, making sponges, swabs, etc. You must be a good housekeeper, to see that the supplies are replenished at the proper time. And when you return from luncheon to find that the operating room is tracked with plaster or spattered with blood, you must take dustpan and brush, soap and water, and restore everything to order.

"You must be interested in extractions rather than dislike them, and you must not be afraid of the sight of blood, because all the preparation for operations must be made by the assistant and she must stand ready to hold a retractor or sponge the wound if necessary. There is no time for you to feel sorry for yourself.

"You must be immaculate. The odor of perfume or tobacco has no place among the sick and is as much out of keeping with the uniform as jewelry, bangles and French-heeled shoes."

I am sure that I have left out a number of details, but what I have outlined will look formidable enough to the novice, and if she survives, she will find that dental assisting is an agreeable and dignified profession.

509 West 110th Street

EXTRACTIONS

No Literature can have a long continuance if not diversified with humor—*ADDISON*

(She)—Are you fond of tea?
(He)—Yes; but I like the next letter best.

Many a man is pointed to as a person of great dignity, when in reality he is just suffering from a sore neck.

(Salesman)—How about an alarm clock?
(Customer)—I don't need a clock. When my wife burns the toast I choke and wake up.

You can't insult a flapper by saying she hasn't a thimbleful of brains. She doesn't know what a thimble is.

THE EGG AND THE CHICKEN

(Teacher)—Which is the most important animal?
(Pupil)—The chicken, sir.
(Teacher)—How is that?
(Pupil)—We can eat it before it is born and after it is dead.

CURE FOR A COLD

(Patient)—Say, Doc, I came to you for some advice about this awful cold I have.
(Doctor)—Well, suppose you try this: Hang up one of your shoes on the foot of your bed. Then lie down and have some one feed you Scotch whiskey until you can see two shoes. You'll probably be all right the next morning.

(He)—We are coming to a tunnel; aren't you afraid?
(She)—Not if you take that cigar out of your mouth.

The doctor told his patient that she needed salt air as a bracer, and must so inform her husband, who was a Scotchman, which she did, of course. When she woke up the next morning, Scotty was fanning her with a salt herring.

"Where is the electrical department," asked the flapper.
"Just walk this way, miss," said the hardware clerk, who was bow-legged.
"You fresh thing," said the girl. "The idea of asking me to walk that way!"

A Scotsman, who was a bad sailor, was crossing the Channel. He went to the captain and asked him what he should do to prevent seasickness.
"Have you got a sixpence?" asked the captain.
"Aye," replied the Scot.
"Well, hold it between your teeth during the trip."

California produces vast quantities of minerals. Other products are grapes and letters from Hollywood asking the old folks for fare home.

The landlady, after serving the new boarder with soup three times, said: "You seem quite fond of soup." "Oh no," said the boarder. "My doctor told me to try the hot water cure."

A lady motorist was driving along a country road when she spied a couple of linemen climbing up a telephone pole. "What fools these fellows are," she said to a companion. "They must think I never drove a car before."

A colored preacher down South was trying to explain the fury of hell to his congregation.
"You all is seen molten iron runnin' out from a furnace, ain't you?" he asked.
The congregation said it had.
"Well," the preacher continued, "dey uses dat stuff fo' ice-cream in de place what I'm talkin' 'bout."

The film director was making a Western thriller, and working very hard to get some action into it.
Finally he turned from the brink of a cliff, mopped his brow, and glanced at a dummy made of straw and old clothes lying on the ground beside him.
"Good heavens!" he shouted. "Who was it we threw over the cliff?"

The world war cost the United States fifty-one billion dollars to date, according to the Secretary of the Treasury. That much money today would buy sixteen states like Alabama, or three enormously rich Californias, with a couple of Colorados thrown in for good measure. It would buy the entire State of New York, with enough change left over to acquire four states like Maryland.
If you had started throwing away dollars the day Christ was born, and had kept it up ever since at the rate of a dollar a minute without pausing either to eat or to sleep, you would only now be starting on your second billion, with 95,000 years more to go.
Will this be a lesson for our people in regard to war? Just think. The ransom of an empire burned up in battle!

FUTURE EVENTS

THE CENTRAL PENNSYLVANIA DENTAL SOCIETY will hold its Annual Meeting at the Fort Stanwix Hotel, Johnstown, Pa., March 2-4, 1931.

The committee is preparing a program which will be both interesting and of scientific value.

Formal announcements will be mailed the latter part of November to the dental manufacturers.

RALPH M. WOLFORD, *President,*
600 Johnstown Trust Bldg., Johnstown, Pa.

THE MINNESOTA STATE DENTAL ASSOCIATION will hold its Forty-Eighth Annual Meeting in the Auditorium, Minneapolis, Minn., March 4-6, 1931.

Martin Dewey, President-elect of the American Dental Association, will be present.

One of the features of the meeting will be the clinical program, which will include a special section devoted to guest clinicians.

A cordial invitation is extended to all members of the American Dental Association.

GEO. D. ESTES, *Secretary,*
911 Medical Arts Bldg., Minneapolis, Minn.

THE EASTERN DENTAL SOCIETY OF THE CITY OF NEW YORK will hold its next regular meeting at the Allied Dental Council Auditorium, 425 Lafayette St., New York, on March 5, 1931.

S. J. Horn, of New York, will give a lecture on *Dental Economics and Office Management.*

At 7:30 an open forum and round table topic discussions will be presented by the following:

Alfred J. Asgis, D.D.S.
William Barell
Samuel Bass, D.D.S.
S. J. Bregstein, D.D.S.
W. B. Caldwell
L. W. Dunham, D.D.S.
Theodore D. Fonarton, D.D.S.
Maxwell S. Joffe, D.D.S.
S. J. Levy, D.D.S.
Eastman Kodak Company
New York Dental Assistants Association

LOUIS I. ABELSON,
Chairman, Executive Committee,
310 West 72nd St., New York, N. Y.

UNITED STATES CIVIL SERVICE EXAMINATIONS

The United States Civil Service Commission announces the following-named open competitive examinations:

Senior Dental Hygienist, $1,800 a year
Dental Hygienist, $1,440 to $1,620 a year

Applications for senior dental hygienist and dental hygienist must be on file with the U. S. Civil Service Commission at Washington, D. C., not later than March 11, 1931.

The examinations are to fill vacancies in the Public Health Service, for duty in Washington, D. C., and in the field.

Competitors will not be required to report for examination at any place, but will be rated on their education, training and experience.

Applicants must have been graduated from a recognized school of oral hygiene or from a recognized dental college. In addition, applicants for senior dental hygienist must have had one year's postgraduate experience in a clinic, organization or institution practicing or teaching dentistry or oral hygiene and must show a thorough knowledge of oral hygiene methods.

Full information may be obtained from the United States Civil Service Commission, Washington, D. C., or from the Secretary of the United States Civil Service Board of Examiners at the postoffice or customhouse in any city.

THE KINGS COUNTY DENTAL SOCIETY will hold its regular meeting at the Building of the Medical Society of the County of Kings, 1313 Bedford Ave., Brooklyn, N. Y., on Thursday, March 12, 1931, at 8:30 p. m.

Arthur G. Smith, D.M.D., F.A.C.D., of Peoria, Ill., Ex-President of the Illinois State Dental Society, will speak on *Dental Caries.*

Leroy L. Hartman, D.D.S., Professor of Operative Dentistry, School of Dental and Oral Surgery, Columbia University, New York, will open the discussion.

Preceding the meeting, at 7:30 p. m., the following clinics will take place:

Louis I. Abelson, D.D.S.—*Inlay*
S. Doskow, D.D.S.—*Amalgam*
H. M. Seides, D.D.S.—*Gold Foil Manipulation*

The following morning, Friday, March 13, 1931, between 10:00 a. m. and 1:00 p. m., Dr. Smith will give a practical clinic in which he will carry out Dr. G. V. Black's "Extension for Prevention" theory by means of models and actual cavity preparation performed on patients.

J. L. FELSENFELD, *President,*
H. AUSUBEL,
Chairman, Educational Committee,
1 DeKalb Ave., Brooklyn, N. Y.

THE WESTCHESTER DENTAL SOCIETY will hold its sixth scientific session of the season at the Community Center, 122 South Broadway, Yonkers, N. Y., on Tuesday, March 17, 1931, at 8:30 p. m.

G. B. Morris, Assistant Professor of Prosthetic Dentistry and Director of Technology Laboratories, New York University College of Dentistry, New York, will lecture on *Partial Denture Construction.*

Preceding the lecture, the following will give clinics on the subjects given:

Amshel Gueft—*Clasps and Their Most Important Features.*

I. A. Levitt—*Technic of Impression-Taking for Partial Dentures with an Elastic Impression Material.*

The Society extends a cordial invitation to all interested practitioners to attend the meeting.

THE HARLEM DENTAL SOCIETY OF THE CITY OF NEW YORK will meet at the New York Academy of Medicine, 2 East 103rd St., New York, N. Y., on March 19, 1931, at 8:15 p. m.

James A. Brady, D.D.S., of Philadelphia, Chairman of the Bureau of Economics of the American Dental Association and Professor of Dental Economics at Temple University, will speak on *Immediate Dental Economics Problems.* Following the lecture, the floor will be open for general discussion.

Members of the dental profession are cordially invited to attend.

J. H. KAUFFMANN, *President,*
S. N. WEINSTEIN, *Secretary,*
700 West End Ave., New York, N. Y.

THE BROOKLYN DENTAL ASSISTANTS STUDY CLUB OF THE SECOND DISTRICT will hold its regular monthly meeting at 62 Hanson Place, Brooklyn, N. Y., on Friday, March 20, 1931, at 8 p. m. Glenn H. Whitson, D.D.S., of Brooklyn, N. Y., will speak on *The Dentist and His Assistant.*

The next Study Class will be held on Friday, March 6, 1931, at 8 p. m at 62 Hanson Place, Brooklyn, N. Y. A. L. Greenfield, D.D.S., New York, N. Y., will discuss *Dental Radiology.*

All members of the dental profession and others who are interested are invited to attend.

THE REHWINKEL DENTAL SOCIETY will hold an all-day and evening meeting at the Masonic Temple, Chillicothe, Ohio, March 28, 1931. The Ohio State Society officials and other noted essayists and clinicians will participate.

All ethical dentists are cordially invited.

WILLIAM G. HAMM, *Secy.-Treas.,*
19 South Paint St., Chillicothe, Ohio.

THE AMERICAN SOCIETY OF STOMATOLOGISTS, a Member of the International Stomatologic Association (A. S. I.), will hold its Eighth Anniversary Meeting of the Stomatologic Movement in America at the Hotel McAlpin, New York, April 16-17, 1931.

A most cordial invitation to attend the sessions is extended to all dental and medical practitioners.

PROGRAM

GENERAL SESSION

April 16th, 8:30 p. m.,
Hotel McAlpin, Broadway at 34th St.

Building Our Future, by King S. Perry, D.D.S., F.A.S.S., President, Jeanette, Pa.

Diagnosis and Elimination of Head Infections, by A. Graham Biddle, M.D., F.A.C.S., New York.
Discussion by Joseph Schroff, M.D., D.D.S., New York.

The Dentist as Practitioner of Stomatology—The Dead Tooth Problem, by Alonzo Milton Nodine, D.D.S., L.D.S., L.R.C.P. (Lond.), M.R.C.S. (Eng.), New York.
Discussion by William C. Rubsam, D.D.S., New York.

A Plan for the Reduction of Cost of Dental Care (Annual Report), by Alfred J. Asgis, Sc.B., M.A., D.D.S., F.A.S.S., New York.
Discussion by Max Price, D.D.S., New York, and Pauline M. Newman, Educational Director, Union Health Center, New York.

SCIENTIFIC SESSION

April 17th, 2:00 p. m.-5:00 p. m. Lecture-clinics will be held at the office of Dr. Nodine, 122 East 64th St., New York.

Surgical Lesions of the Mouth, by J. J. Stark, D.D.S., Brooklyn, N. Y.

The Child-Patient, by Irene G. Woodcock, D.D.S., New York.

Various Phases of Periodontoclasia, by M. J. Goldin, D.D.S., New York.

EXECUTIVE SESSION

April 17th, 10:30 a. m., at the office of Dr. Alfred J. Asgis, 509 Madison Ave., New York.

Reports of Committees and Component Societies.

The First International Stomatologic Congress, Budapest, 1931, (Report), by Dr. J. Sturm, Budapest, Hungary.

The Present Status of Dental Educational Reform (Report of A. S. S. Educational Committee).

ALFRED J. ASGIS, *Secretary,*
509 Madison Ave., New York, N. Y.

ALUMNI ASSOCIATION NEW YORK UNIVERSITY COLLEGE OF DENTISTRY

Alumni Day of the New York University College of Dentistry will be held on Friday, April 17, 1931, at the Dental School Building, 209 East 23rd Street, New York, N. Y.

An interesting series of clinics will take place

in the afternoon, followed by a dinner at the New York Athletic Club in the evening. The meeting of the Alumni Association will immediately follow the clinics.

All graduates of the Dental School, whether members of the Alumni Association or not, are cordially invited to attend.

Reservations for the dinner may be made by sending name, address, year of graduation and check to Dr. Waite A. Cotton, Chairman of Dinner Committee, 241 West 71st St., New York, N. Y.

SIMON SHAPIRO, *President,*
SAMUEL C. MILLER, *Secretary.*

THE AMERICAN BOARD OF ORTHODONTIA, created by the American Society of Orthodontists in 1929 and incorporated in January, 1930, in the State of Illinois, will hold a meeting at Hotel Jefferson, St. Louis, Mo., on April 20, 1931, at 9:00 a. m.

Orthodontists who desire to qualify for a certificate from the Board should secure the necessary application form from the secretary. Attention is called to the following resolutions adopted by the Board:

"Any person desiring to make application to the Board for a certificate shall have been in the exclusive practice of orthodontia for a period of not less than five years or an equivalent to be determined by the Board and based upon the following conditions: (1) an instructor in orthodontia in a school satisfactory to the Board; (2) an associate in the office of an orthodontist whose standing is satisfactory to the Board. It is, however, to be definitely understood that any person at the time of making application for a certificate shall be in the exclusive practice of orthodontia in his own name."

ALBERT H. KETCHAM, *President,*
1232 Republic Bldg., Denver, Colo.
OREN A. OLIVER, *Secretary,*
1101 Medical Arts Bldg., Nashville, Tenn.

THE AMERICAN SOCIETY OF ORTHODONTISTS will hold its Thirtieth Annual Meeting at the Jefferson Hotel, St. Louis, Mo., April 21-24, 1931.

HARRY E. KELSEY, *President,*
833 Park Avenue, Baltimore, Md.
CLAUDE R. WOOD, *Secretary,*
Medical Arts Bldg., Knoxville, Tenn.

THE LOUISIANA STATE DENTAL SOCIETY will hold its next annual meeting in New Orleans, La., April 23-25, 1931.

JULIAN S. BERNHARD, *Secretary,*
417 Medical Arts Bldg., Shreveport, La.

THE KANSAS STATE DENTAL ASSOCIATION will hold its Sixtieth Annual Convention at Hutchinson, Kansas, April 27-29, 1931. Among the essayists will be Percy R. Howe of Boston and Sterling V. Mead of Washington, D. C.

All members of the American Dental Association are cordially invited to attend.

FRED A. RICHMOND, *Secretary,*
305 Federal Reserve Life Bldg.,
Kansas City, Kansas.

THE CONNECTICUT STATE DENTAL ASSOCIATION will hold its Sixty-Seventh Annual Meeting at Hartford, Conn., April 28-30, 1931.

JOHN F. THOMPSON, *Chairman,*
Publicity Committee,
902 Main St., Hartford, Conn.

THE MASSACHUSETTS DENTAL SOCIETY will hold its Annual Meeting at the Hotel Statler, Boston, Mass., May 4-7, 1931.

FRANK A. DELABARRE, D.D.S., *President,*
520 Beacon St., Boston, Mass.

THE MASSACHUSETTS DENTAL HYGIENISTS' ASSOCIATION will hold its next Annual Convention at the Hotel Statler, Boston, Mass., May 4-7, 1931. All registered dental hygienists are urged to attend.

THE PENNSYLVANIA STATE DENTAL SOCIETY will hold its Sixty-third Annual Meeting at the William Penn Hotel, Pittsburgh, Pa., May 5-7, 1931.

A full program of papers and demonstrations is being arranged, together with several innovations. An attractive social program for members and those accompanying them is in course of preparation.

A cordial invitation is extended to all dentists who are members of the American Dental Association.

W. HARRY ARCHER,
Chairman Publicity Committee,
322 Jenkins Arcade, Pittsburgh, Pa.

THE SOUTH CAROLINA STATE DENTAL ASSOCIATION will hold its Sixty-first Annual Meeting at Columbia, S. C., May 7-8, 1931.

N. W. MACAULAY, *Secretary,*
Medical Bldg., Columbia, S. C.

THE TEXAS STATE DENTAL SOCIETY will hold its Fifty-first Annual Convention at Houston, Texas, May 12-15, 1931. A cordial invitation to attend is extended to all

dentists who are members of the American Dental Association.

For information relative to exhibits, write to Dr. E. A. Morris, Chairman, 1518 Medical Arts Bldg., Houston, Texas.

TOM F. COYLE, *President,*
Orange, Texas.

J. G. FIFE, *Secretary-Treasurer,*
Medical Arts Bldg., Dallas, Texas.

THE DENTAL SOCIETY OF THE STATE OF NEW YORK will hold its Sixty-third Annual Meeting at Hotel Pennsylvania, New York, May 12-15, 1931.

A cordial invitation is extended to all dentists, members of the American Dental Association and to all ethical Canadian dentists.

John T. Hanks, 17 Park Avenue, New York, is Chairman of the Exhibits Committee. Address Dr. Hanks for information relative to space and terms.

Fred R. Adams, 8 West 40th St., New York, is Chairman of the Clinic Committee. Under his direction a new plan will be presented in the presentation of the Educational Clinics. Dr. Adams will be pleased to hear from ethical dentists willing to present clinics of merit.

For general information, address the Secretary.

ALFRED WALKER, *President,*
100 West 59th St., New York, N. Y.

A. P. BURKHART, *Secretary,*
57 East Genesee St., Auburn, N. Y.

THE DENTAL HYGIENISTS ASSOCIATION OF THE STATE OF NEW YORK will hold its Eleventh Annual Meeting at the Hotel Pennsylvania, New York, May 12-15, 1931.

A cordial invitation is extended to members of the dental profession, dental hygienists and dental assistants.

EVELYN M. GUNNARSON, *President,*

MABEL ERCKERT, *Corresponding Secy.,*
18 East 48th St., New York, N. Y.

THE ONTARIO DENTAL ASSOCIATION will hold its Annual Convention at the Royal York Hotel, Toronto, Ontario, Canada, May 26-29, 1931. A very fine program of essays and clinics has been prepared.

Ethical dentists of Provinces of Canada outside of Ontario and from the United States are invited to attend as guests of the Ontario Society.

FRED J. CONBOY, *Secy.-Treas.,*
1442-A Yonge St., Toronto, Ont., Canada.

THE NORTHERN OHIO DENTAL ASSOCIATION will hold its Seventh-fourth Annual Meeting at Hotel Winton, Cleveland, Ohio, June 1-4, 1931.

These meetings, as in the past, will be featured by teaching clinics; that is, the essayist will give a practical demonstration also in the form of a clinic.

The following essayists and clinicians will appear on the program:

W. J. Charters, Des Moines—*Toothbrush Manipulation*
F. Blaine Rhobotham, Chicago—*Children's Dentistry*
Howard C. Miller, Chicago—*Oral Surgery*
Arthur J. Cramp, Chicago—*Patent Drugs*
Stanley D. Tylman, Chicago—*Fixed Bridgework*
Milton T. Hanke, Chicago—*Diet*
M. M. DeVan, Philadelphia—*Full Dentures*

A cordial invitation is extended to all ethical dentists.

WALTER S. SARGEANT,
Publicity Chairman,
807 Nicholas Bldg., Toledo, Ohio.

THE MISSISSIPPI DENTAL ASSOCIATION will hold its annual meeting at Gulfport, Miss., June 4-6, 1931. All ethical dentists are invited.

A. S. HOPKINS, *Executive Committeeman,*
Gulfport, Miss.

THE INDIANA STATE BOARD OF DENTAL EXAMINERS will meet in the House of Representatives Room of the State House, Indianapolis, Ind., on June 15, 1931, at 8:00 a. m., for the purpose of conducting an examination of all applicants for licensure in Indiana who come with proper credentials and are accepted for examination.

All applications should be in the hands of the secretary one week before the meeting. The examination will probably last through four days. For applications, clinical requirements and other information, address

J. M. HALE, *Secy.-Treas.,*
Mount Vernon, Ind.

The position of DENTAL INTERN at the LENOX HILL HOSPITAL, New York, N. Y., will be vacant September 1, 1931. The term of service is one year, with full maintenance. Apply in writing not later than April 1st to

GEORGE F. SAUER, *Superintendent,*
112 East 77th St., New York, N. Y.

THE AMERICAN DENTAL HYGIENISTS' ASSOCIATION will hold its Eighth Annual Session in Memphis, Tenn., October 19-23, 1931.

AGNES G. MORRIS, *Secretary,*
886 Main St., Bridgeport, Conn.